

Tamar E. Finn
Direct Phone: 202.373.6117
Direct Fax: 202.373.6001
tamar.finn@bingham.com

October 17, 2008

VIA HAND DELIVERY

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, DC 20554

Re: Ex Parte Communication, WC Docket Nos. 01-92

Dear Ms. Dortch:

PAETEC, a leading communications solutions provider and one of the largest competitive local exchange carriers (“CLECs”) in the nation, submits this letter in the above-captioned docket to show as a factual matter that its cost of termination is well above the proposed uniform rate of \$0.0007.¹ PAETEC explains below, and in the attached documents prepared by its consultant QSI Consulting, Inc. (“QSI”), that because its costs of terminating telecommunications traffic are above \$0.0007 per minute of use (“MOU”), imposing that rate on PAETEC would result in an unlawful cross subsidy to interexchange carriers.²

Although PAETEC believes that intercarrier compensation rates should be based on an individual carrier’s forward looking costs, implementation of safe harbor benchmarks is an acceptable approach provided the benchmarks are reasonable. As the attached declaration of Michael Starkey confirms, if a benchmark is set for termination rates, neither AT&T nor Verizon provide a reasonable benchmark for PAETEC. Rather, based on similarities in network and other cost related factors, CLECs should be benchmarked to mid-size incumbent LECs.

Finally, PAETEC argues that the Commission cannot adopt the below-cost rate of \$0.0007 and make-whole mechanisms for incumbent LECs as part of intercarrier compensation reform because of the lack of record evidence concerning the cost it would impose on consumers and what the impact would be on competition.

¹ As PAETEC will show in a subsequent *ex parte*, the FCC does not have the legal authority to set the termination rate for any traffic except interstate access.

² PAETEC will show in a subsequent *ex parte* that below-cost termination rates also result in unlawful confiscation of its property.

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Tokyo
Walnut Creek
Washington

Bingham McCutchen LLP
2020 K Street NW
Washington, DC
20006-1806

T 202.373.6000
F 202.373.6001
bingham.com

\72685787.2

I. PAETEC'S TOTAL LONG RUN INCREMENTAL SERVICE COST OF TERMINATING A MINUTE OF USE SIGNIFICANTLY EXCEEDS \$0.0007.

As Mr. Starkey explains in the attached declaration, PAETEC's costs of terminating telecommunications traffic (regardless of whether it is local, intrastate long distance, interstate long distance, ISP-bound, IP-PSTN, or PSTN-IP) are many times higher than \$0.0007.³ Notwithstanding the fact that PAETEC is one of the most efficient CLECs QSI has performed a cost study for,⁴ even PAETEC cannot recover its costs of termination with a \$0.0007 rate.

II. IMPOSING A BELOW-COST TERMINATION RATE ON PAETEC WOULD RESULT IN AN UNLAWFUL CROSS-SUBSIDY TO IXCS TERMINATING TRAFFIC ON PAETEC'S NETWORK

PAETEC's end users should not be forced to subsidize others' long distance services, including telemarketers. The Act requires that the Commission remove all implicit subsidies from rates and establish explicit, sufficient, and predictable universal service support.⁵ Requiring CLECs to provide below-cost termination services to IXC and shift the unrecovered costs of IXC traffic termination to their local end user customers violates the Act. Below-cost termination rates are an implicit subsidy to long distance telecommunications service providers and their customers, such as telemarketing services.⁶

If PAETEC is forced to provide below-cost termination service to IXCs, it cannot make up those costs by receiving low-cost service from the IXCs. In many instances, PAETEC self provisions IXC service using its own fiber long-haul network.⁷ Taken as a group, Verizon Business (formerly MCI), Sprint, Qwest and AT&T represent 80-90% of all long distance calls received by CLEC customers.⁸ Unlike locally-dialed calls, there is no mutual or reciprocal exchange of long distance traffic between CLECs and IXCs. If

³ Declaration of Michael Starkey at ¶¶ 2, 7.

⁴ *Id.* at ¶ 3.

⁵ 47 U.S.C. § 254 "There should be specific, predictable and sufficient Federal and State mechanisms to preserve and advance universal service." 47 U.S.C. § 254(b)(5).

⁶ QSI Consulting, Inc., "Exchange Access Rates for Competitive Local Exchange Carriers, A Basis for Economically Rational Pricing Policies, at 20 (Document Number 052008A, August 2008) ("QSI Policy Analysis"), available at <http://www.qsiconsulting.com/pdf/QSIPolicyAnalysis052008A-CLEC-Switched-Access.pdf>.

⁷ If, as AT&T and Verizon imply, \$0.0007 is their cost-based termination rate for all traffic, then PAETEC is also subsidizing their local end users when it pays them terminating access at rates that are many times higher than \$0.0007.

⁸ QSI Policy Analysis at 23.

PAETEC is forced to provide below-cost terminating access service to these IXC's, it cannot offset the economic harm of providing below-cost services by "exchanging" like amounts of PAETEC-originated long distance traffic with these IXC's at below-cost rates. To the extent PAETEC uses the IXC's to provide long distance service to its end users, those rates are commercially negotiated. Nothing in the proposals require IXC's to reduce their wholesale or retail long distance rates by the amount of terminating access savings they realize.

III. AT&T AND VERIZON ECONOMIES OF SCALE AND SCOPE MAKE THEIR TERMINATION COSTS UNRELIABLE OUTLIERS THAT DO NOT ACCURATELY REPRESENT ANY OTHER LEC'S COSTS

Virtually all LECs have higher termination costs than AT&T and Verizon.⁹ How could they not? AT&T and Verizon are enormous, vertically integrated companies with huge economies of scale and scope that dwarf the remainder of the industry.¹⁰ Thus, AT&T and Verizon's costs for terminating traffic cannot reasonably be relied upon as evidence of the true industry costs of terminating telecommunications traffic, and, therefore, do not produce "just and reasonable" rate levels that CLECs are entitled to charge for their termination services. No matter how efficient another carrier becomes, it can never match the economies of scale of either of these entities. Indeed, there is no valid justification to compare the operations of AT&T and Verizon to any other LEC, particularly competitive LECs, like PAETEC. At best, based on their respective size, scope, economies of scale and large integrated long distance arms, only AT&T and Verizon may be compared to each other for purposes of benchmarking their cost-based rate for terminating telecommunications traffic.

IV. IF BENCHMARK RATES ARE ESTABLISHED FOR TERMINATION, CLECS SHOULD BE BENCHMARKED TO THE RATE ESTABLISHED FOR MID-SIZED ILECS

CLECs have more in common with mid-sized ILECs than RBOCs. CLECs and mid-sized LECs have lower customer densities, lower switch utilization, fewer switches and more transport, and higher per-unit network costs than RBOCs. If the FCC adopts benchmarked rates, CLECs should be benchmarked to mid-sized ILECs.

CLECs' lower density is a major cost driver in cost studies. Although CLECs generally operate in more densely populated areas, they serve relatively few customers that are geographically dispersed within those areas.¹¹ Because a CLEC serves only a fraction of the customers in an RBOC's local calling area, if a CLEC's customer base is expressed

⁹ QSI Policy Analysis at i.

¹⁰ Declaration of Michael Starkey at ¶ 3.

¹¹ QSI Policy Analysis at 38.

on a customer-per-square mile basis, it is significantly lower than an RBOC's.¹² For example, a QSI study comparing CLEC line density to two RBOCs found that the RBOCs' line density was 24 and 35 times more than the CLECs'.¹³

CLECs' lower switch utilization is also a primary driver of costs. QSI's study shows that even though a CLEC may aggregate customers over a larger area, an average CLEC has less lines per switch than the competing RBOC.¹⁴ Accordingly, it costs a CLEC more than a RBOC to switch any given call.

CLECs also lack the economies of scale of large RBOCs. For example, AT&T-Texas sells nearly 13 times more switched access minutes per year than does McLeodUSA, a PAETEC subsidiary in Texas.¹⁵ Such significant economies of scale significantly reduce a RBOC's costs because they have so many more customers than a CLEC, like PAETEC.

A CLEC's average utilization rate over the economic life of the switch is likely below the larger RBOCs,'¹⁶ thus increasing its costs. CLECs typically employ the most efficient, state-of-the-art switching equipment with SONET rings or other high-capacity transport. These switches are capable of serving as many as one hundred thousand customers. RBOCs deploy these switches, or add switch modules, to serve an established and robust customer base. In contrast, a CLEC must deploy a new switch to enter a market, even if it has very few customers. This means that the utilization of a CLEC's switch is substantially below full capacity over much of that switch's economic life whereas from the moment an ILEC installs a digital switch, it will be able to achieve a higher rate of utilization relative to a new entrant.¹⁷

CLECs tend to have higher input costs than the larger RBOCs. AT&T and Verizon, as the nation's largest purchasers of telecommunications equipment, have significant bargaining power and the ability to negotiate discounts by shifting the bulk of their purchases to the supplier willing to offer the best deal. CLECs, like mid-sized LECs, are much smaller and purchase fewer facilities and equipment. CLECs therefore do not have the bargaining power to induce suppliers to offer substantial discounts.¹⁸

Together, these factors weigh heavily against benchmarking CLECs' termination rates to the large RBOCs. To the extent the Commission is considering benchmarking, therefore,

¹² QSI Policy Analysis at 46-49.

¹³ *Id.* at 48.

¹⁴ *Id.* at 50-51.

¹⁵ *Id.* at 40.

¹⁶ *Id.* at 43.

¹⁷ *Id.*

¹⁸ *Id.* at 52-53.

CLECs should be benchmarked to those ILECs with similar characteristics, namely, mid-sized LECs.¹⁹

V. IF THE COMMISSION MAKES ILECS WHOLE FROM ANY REDUCTION IN TERMINATION RATES, IT WOULD BALLOON THE USF AND HAVE AN ADVERSE IMPACT ON CONSUMERS

Apart from vague estimates, neither AT&T nor Verizon has submitted record evidence to show the potential impact of a uniform \$0.0007 rate on subscriber line charges (“SLCs”) or the federal USF. Consumers would bear the brunt of increases to both rate elements, with no guarantee that long distance rates would be lowered to make up for the reduced cost of terminating calls.

The record lacks evidence quantifying how much access charges would have to be reduced to achieve a uniform rate of \$0.0007. A review of the large ILECs’ access rates shows a broad range of rates well above \$0.0007. For example, AT&T, Qwest and Verizon all have composite exchange access rates in many states above \$0.02 per MOU, with the highest AT&T rate above \$0.09 per MOU; Qwest above \$0.05 per MOU; and Verizon above \$0.12 per MOU.²⁰ There is no record evidence that shows the total amount of lost access revenue AT&T or Verizon would seek to recover through SLC increases and additional USF support, let alone the total amount of lost access revenue all ILECs would seek to recover through these charges, both of which are ultimately imposed on end users.

AT&T’s and Verizon’s unsupported estimates of increased USF support range up to \$1.8 billion.²¹ If the additional USF cost were \$1.8 billion annually, and their plan was in place today, the fourth quarter contribution factor would be 14% rather than 11.4%.²² Add this **2.6% increase in the USF contribution factor** to the higher SLCs contemplated by the AT&T/Verizon plan and end users would take a significant hit in their monthly bills at a time when many news reports claim that this country faces the worst economic crisis since the Great Depression. A significant increase in the size of the fund would be especially problematic under a numbers based USF system that shifts a significant

¹⁹ QSI Policy Analysis at 44-52.

²⁰ *Id.* at 32-33.

²¹ See Letter from Brian Benison, Director, Federal Regulatory, AT&T to Marlene H. Dortch, Secretary, FCC, Docket Nos. 01-92, 05-337, 96-45, 99-68 & 07-135, at Attachment, p. 8 (Sept. 12, 2008).

²² $(\$1.919820 \text{ billion} + (\$1.8 \text{ billion}/4))/\$16.921174 \text{ billion} = 14\%$. Current program demand (\$1.919820) and contribution base (\$16.921174) taken from Proposed Fourth Quarter 2008 Universal Service Contribution Factor, DA-08-2091 (rel. Sept. 12, 2008), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-08-2091A1.pdf.

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portion of USF recovery onto business customers at a time when businesses are struggling to maintain current employment levels.

PAETEC does not concede that implicit subsidies remain in access charges, especially for price cap carriers. Nevertheless, several parties continue to argue that at least some incumbent LECs must be made whole for any reductions in access revenue that result from intercarrier compensation reform. The Commission cannot responsibly select a terminating rate and establish recovery mechanisms without giving interested parties the opportunity to examine the models on which SLC and USF recovery estimates are based. Accordingly, the Commission must not put the cart before the horse by implementing a \$.0007 terminating rate before it carefully considers the impact that such rate will have on all aspects of the telecommunications industry, including SLCs, USF recovery and carriers, like CLECs and mid-sized LECs, that have vastly different operations and costs than AT&T and Verizon.

Sincerely yours,

/s/ electronically signed

Tamar E. Finn

Counsel for PAETEC

Enclosure

cc (by e-mail):

Amy Bender
Nicholas Alexander
Scott Bergmann
Scott Deutchman
Greg Orlando
Claude Aiken
Jay Atkinson
Randy Clarke
Nicholas Degani
Victoria Goldberg
Albert Lewis
Marcus Maher
Don Stockdale
Matthew Warner

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Developing a Unified Intercarrier)	CC Docket No. 01-92
Compensation Regime)	
)	

October 16, 2008

DECLARATION OF MICHAEL STARKEY

I, Michael Starkey, on oath, state and depose as follows:

I. INTRODUCTION

1. My name is Michael Starkey. I currently serve as the President of QSI Consulting, Inc. (hereafter "QSI"). I have been asked by PAETEC to comment on two issues related to inter-carrier compensation proposals currently being considered by the Federal Communications Commission ("FCC"). First, I have been asked to provide preliminary results from a cost model QSI constructed on PAETEC's behalf to evaluate costs it incurs in terminating switched voice traffic. Second, I have been asked to describe QSI's experience evaluating not only the usage-sensitive traffic termination costs of many Competitive Local Exchange Carrier ("CLEC") clients including PAETEC, but also our experience in reviewing traffic termination costs for Incumbent LECs ("ILECs") and other carriers.

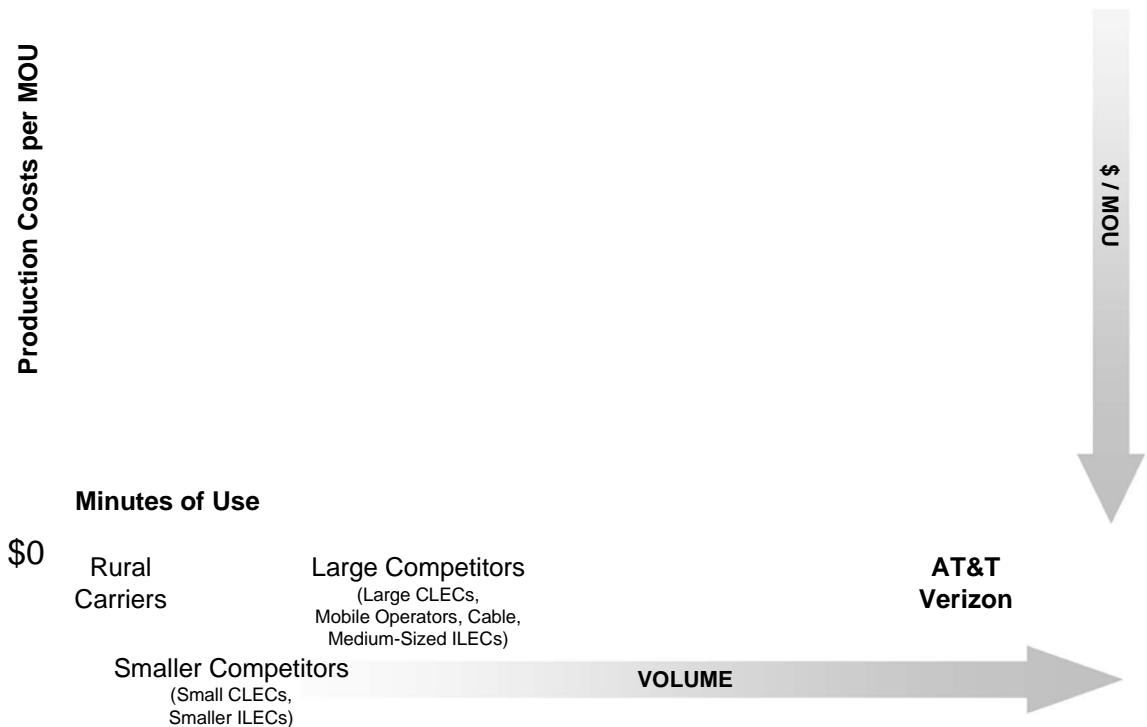
1 2. QSI's analysis indicates that even under the most favorable network
2 conditions, PAETEC cannot originate or terminate switched voice¹ traffic at
3 costs equal to or less than \$0.0007 per minute. Indeed, even though
4 PAETEC's specific business model provides it notable, traffic termination
5 economies beyond those enjoyed by a majority of CLECs, PAETEC still
6 incurs costs of approximately [BEGIN PROPRIETARY *****
7 END PROPRIETARY] per minute when applicable shared and common
8 costs are considered.² Further, even if you remove all shared, common and
9 other costs (costs that are legitimately recoverable under the FCC's TSLRIC
10 and/or TELRIC methodologies)³ and consider only the absolute minimum
11 incremental cost relevant to a minute of use, PAETEC's costs are
12 approximately [BEGIN PROPRIETARY ***** END
13 PROPRIETARY], roughly [BEGIN PROPRIETARY *****
14 END PROPRIETARY] times \$0.0007.
15
16 3. The results above are consistent with QSI's general experience with
17 evaluating costs relevant to various types of carriers (i.e., CLECs, ILEC, cable

¹ The QSI analysis studies costs specific to all voice services, including both circuit-switched voice and IP-enabled voice products. The QSI analysis does not include costs attributable to data services (e.g., the QSI analysis allocates edge router investment based upon port-capacity assigned to voice versus data, capturing only voice-specific investment).

² Represents preliminary costs averaged across all PAETEC markets.

³ Total Service Long Run Incremental Cost ("TSLRIC") and Total Element Long Run Incremental Cost ("TELRIC") respectively. Both are discussed in detail at Section VII of the FCC's *Local Competition Order*, FCC 96-325. See *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, First Report and Order, 11 FCC Rcd 15499, 15509, ¶¶ 630-740 (1996) (*Local Competition Order*), aff'd in part and vacated in part sub nom., *Competitive Telecommunications Ass'n v. FCC*, 117 F.3d 1068 (8th Cir. 1997) (*CompTel v. FCC*) and *Iowa Utils. Bd. v. FCC*, 120 F.3d 753 (8th Cir. 1997) (*Iowa Utils. Bd. v. FCC*), aff'd in part and remanded, *AT&T v. Iowa Utils. Bd.*, 119 S. Ct. 721 (1999); Order on Reconsideration, 11 FCC Rcd 13042 (1996), Second Order on Reconsideration, 11 FCC Rcd 19738 (1996), Third Order on Reconsideration and Further Notice of Proposed Rulemaking, 12 FCC Rcd 12460 (1997), further recons. pending.

operators, mobile providers, etc.). That experience, gained over the past 10-20 years, indicates that even the largest, most efficient CLECs trail substantially behind AT&T and Verizon with respect to economies of scale required to produce per-minute-of-use costs anywhere near the \$0.0007 figure proposed by certain parties in this proceeding. Indeed, it is important to highlight the fact that AT&T's and Verizon's per-unit costs of production for traffic termination services stand as outliers to other carriers in the industry. The sheer volume and scale of their businesses, garnered in large part from their unique/shared origins as government protected monopolists, provide them economies of scale no other carrier has yet been able to match. The chart below compares traffic termination costs of different classes of carriers that QSI has observed in the near-20 years its consultants have spent studying telecommunications costs:



1
2 In addition to QSI's general experience in developing cost studies for both
3 CLECs and ILECs, as well as participating nationwide in state-specific cost
4 proceedings over the past two decades, QSI has also recently completed a
5 whitepaper related to traffic termination services. As part of that general
6 analysis QSI explores two major cost drivers that likely form the basis for the
7 distribution of costs characterized above: (1) customer density and (2) switch
8 utilization. The results of that analysis are attached hereto as Exhibit 2 and
9 further support the comparison of costs identified above.
10

11 **II. BACKGROUND**

12
13 4. I received a Bachelor of Science degree in Economics from Missouri State
14 University in 1991. I have been a consultant specializing in
15 telecommunications since I co-founded Competitive Strategies Group, Inc. in
16 1996. I later co-founded QSI Consulting, Inc. ("QSI") in 1999 and have been
17 employed as its President ever since. Prior to 1996, I was employed by the
18 Maryland Public Service Commission as the Director of its
19 Telecommunications Division. My responsibilities included managing the
20 Commission's Telecommunications Staff of engineers, economists, tariff
21 analysts and other specialists tasked as the Commission's primary advisors on
22 all issues related to telecommunications. I joined the Maryland Commission
23 staff in 1994 from the Illinois Commerce Commission where I served as the
24 Office of Policy and Planning's Senior Telecommunications Analyst. I began

1 my professional career with the Missouri Public Service Commission as a
2 Senior Economist within the Commission's Telecommunications Department,
3 Utility Operations Division. Since 1996 I have assisted more than one
4 hundred individual telecommunications clients including local exchange
5 carriers ("LECs"), interexchange carriers ("IXCs"), ISPs, equipment
6 manufactures, state commissions and public advocates. Attached as Exhibit 1
7 hereto is my curriculum vitae which provides more detailed information
8 regarding my background.

9 5. QSI is a consulting firm specializing in the areas of economic analysis and
10 regulated industries. QSI assists clients in numerous areas within the
11 telecommunications industry ranging from Interconnection Agreement
12 ("ICA") negotiations, technical support, complex econometric analysis and
13 public policy. A large portion of QSI's core practice focuses on cost analysis
14 within the communications industry. For example, QSI regularly builds cost
15 studies for its clients and likewise critiques, where necessary, cost studies
16 filed by other carriers, e.g., QSI is often hired by state public utility
17 commissions to evaluate cost studies filed by various carriers.⁴ Over the past
18 17 years I have personally been involved in more than 100 projects where I
19 was tasked with reviewing costs incurred by various telecommunications
20 companies as they provision telecommunications services. My prior analysis
21 includes reviewing costs incurred by every major incumbent LEC ("ILEC") in

⁴ As an example, I am currently assigned as the Project Manager for QSI's involvement in the Public Service Commission of the District of Columbia's Docket No. 1040-T-62 wherein QSI has been tasked with reviewing cost studies filed by Verizon D.C. in support of various E911 rates. QSI has provided this type of, or similar, cost analysis assistance to approximately 10 different state utility commissions in the recent past.

the nation, competitive LECs (“CLECs”), wireless carriers, cable television/telephone companies and others.⁵

III. PAETEC COST STUDY

6. In March 2008 QSI was engaged by PAETEC to build an economic model capable of estimating costs it incurs in supporting switched voice services. After nearly 5 months of direct interaction with PAETEC’s engineers, accountants and financial experts, QSI delivered to PAETEC its Network Usage Cost Assessment (“NUCA”) tool. NUCA is a costing tool developed by QSI for purposes of identifying traffic termination costs incurred by its telecommunications clients. NUCA adheres to the TSLRIC methodology discussed by the FCC in its *Local Competition Order*.⁶ NUCA is not a “proxy” cost model which aggregates broad, industry-wide metrics for purposes of identifying costs. Instead, NUCA is a series of spreadsheet tools used by QSI’s experts to gather substantial company-specific data for purposes of developing highly individualized company-specific costs. QSI’s experts work with company engineers, accountants and other company subject matter experts (“SME”) over a number of months to gather substantial data related to:

(a) the network architecture employed by the company,

⁵ I have personally been involved (and QSI Consulting, Inc. has been involved as a group) in reviewing cost analysis submitted by every major incumbent local exchange carrier in the nation including AT&T and its subsidiaries, Qwest, Verizon, Embarq, Centurytel, etc. I have also been privy to substantial cost information compiled by QSI’s clients in the form of formal cost studies and informal cost analysis.

⁶ See Section VII.

(b) specifics related to its traffic-flow and the manner by which transport and switching capacity are employed to meet customer demands as well as,

(c) the individual resources required to build, maintain, manage and grow its network.

7. The general results of the NUCA model when populated with PAETEC-specific data are described above. While costs do vary by market based upon numerous variables (including demand characteristics, network concentration and other factors), the results above provide a good indication of PAETEC's per-MOU costs, on average, across its region specific to any type of switched voice service (local, intra-state, inter-state, switched access, etc.). After having reviewed PAETEC's costs in detail, I can state with certainty that a rate equal to \$0.0007 would fall far short of properly compensating PAETEC for the capital it has deployed and the expenses it incurs in transporting and switching voice-related services.
8. It is worth noting that NUCA captures costs associated with the "soft-switch" platform already substantially deployed by PAETEC. While it also captures circuit-switched investments where those facilities represent the most efficient delivery vehicle, the NUCA results identified above are heavily weighted toward PAETEC's IP-enabled platform. I mention that only because I believe many regulatory decision makers hold the opinion that as carriers invest more heavily in IP-enabled switching platforms, the costs of carrying voice traffic asymptotically approach \$0. Our extensive analysis on the part of PAETEC

and numerous other carriers belies that opinion. Indeed, after all costs necessary to support voice traffic on an IP-enabled network are taken into consideration (*i.e.*, session border controllers, signaling and feature servers, monitoring probes, etc.), costs per MOU certainly begin to fall, but not by the orders of magnitude that many are inaccurately predicting. This is especially true since ILECs continue to insist on exchanging traffic on a TDM basis rather than an IP to IP basis, which continues to cause PAETEC to incur higher costs than it would otherwise. With that in mind, even as PAETEC continues to expand its IP-enabled switching platform, it will not achieve per MOU costs equal to, or less than, \$0.0007 any time in the foreseeable future.

9. It is also worth noting that PAETEC has evolved as a carrier with a somewhat unique business model that provides it with substantial economies of scale and scope related to traffic termination services. For example, PAETEC does not currently, and has not in the past, served single line or even small, multi-line customers. Instead, PAETEC has developed its network to support only DS1 and above customers, preferably customers using DS3 or above connections.⁷ Likewise, PAETEC has never collocated in ILEC Central Offices or invested capital in aggregation equipment that is necessary to capture traffic from DS0-based customers.⁸ Finally, in part because of this unique business strategy, PAETEC employs some of the most highly utilized switches ever studied (both circuit-switched and IP-enabled platforms) by QSI. Yet, even when the

⁷ Digital Signal Level 1 (“DS1”) and Digital Signal Level 3 (“DS3”) in this circumstance identify transport capacity equal to 1.544 Mbps and 44.736 Mbps respectively.

⁸ Digital Signal Level 0 (“DS0”) is used as a general placeholder for “single-line” services typically provided to residential or small business customers (it is more specifically a 64 kbs signal generally accommodated on a larger bandwidth circuit).

effects of those important engineering differences are considered, as you can see from the results of our analysis above, even PAETEC does not approach either AT&T or Verizon with respect to achieving low costs per minute of use.⁹

III. QSI WHITEPAPER

10. Included with this Declaration as Exhibit 2 are excerpts from a recent QSI whitepaper entitled *Exchange Access Rates for Competitive Local Exchange Carriers, A Basis for Economically Rational Pricing Policies*. The excerpts describe analysis undertaken by QSI to compare the relative cost structure of a typical ILEC network versus those incurred on CLEC networks. For example, one of the key cost-drivers in almost any telecommunications cost study is “customer density,” i.e., the number of customers within a defined geographic space that can be served while minimizing network investment. The QSI whitepaper analyzes customer-density enjoyed by two of its CLEC clients when compared to similar densities enjoyed by ILECs serving the same geographic territory (specifically AT&T and Qwest). The results indicate that even when serving roughly the same geographic territory, ILEC densities (measured in customers per square mile) exceed CLEC densities by 24-35 times. In other words, where a CLEC must build its network to serve 10

⁹ This fact can be established by comparing the result of the PAETEC rates identified in Section 1 of this Declaration with cost-based rates approved for AT&T and Verizon for reciprocal compensation by various state utility commissions as identified in a similar Declaration I filed on behalf of NuVox Communications on October 2, 2008.

1 customers within a square mile, AT&T and Verizon would likely serve 240-
2 350 customers within that same area (and enjoy the economies related
3 thereto). Likewise, the QSI whitepaper highlights the differences in CLEC
4 versus ILEC network architecture and describes the costs differences that
5 result (including the likelihood of lower switch-utilization and higher
6 transport costs). In total, the QSI whitepaper demonstrates that large,
7 vertically integrated ILECs like AT&T and Verizon are uniquely situated in
8 the market when it comes to their overall costs of production, especially with
9 respect to traffic termination services. And, as a result, they serve as poor
10 benchmarks in attempting to understand the costs of nearly any other carrier.

11
12 **V. EXPERT'S STATEMENT**

13
14 11. I declare that I created this declaration with the assistance of persons under
15 my direct supervision and that, to the best of my knowledge, the facts
16 represented herein are true and accurate.

17
18
19 
20
21

22 Michael Starkey

Declaration of Michael Starkey
CC Docket No. 01-92
WC Docket No. 04-36

Michael Starkey

**President
Founding Partner
QSI Consulting, Inc.**

243 Dardenne Farms Drive
Cottleville, MO 63304
(636) 272-4127 voice
(636) 448-4135 mobile
(866) 389-9817 facsimile
mstarkey@qsiconsulting.com



Biography

Mr. Starkey currently serves as the President and Founding Partner of QSI Consulting, Inc. QSI is a consulting firm concentrating primarily on regulated markets including the telecommunications industry. QSI assists its clients in the areas of regulatory policy, business strategy, financial and econometric analysis and inter-carrier issues involving rates and charges assessed by incumbent carriers. Prior to founding QSI Mr. Starkey served as the Senior Vice President of Telecommunications Services at Competitive Strategies Group, Ltd. in Chicago, Illinois.

Mr. Starkey's consulting career began in 1996 shortly before the passage of the Telecommunications Act of 1996. Since that time, Mr. Starkey has advised some of the world's largest companies (e.g., AT&T, MCI, Time Warner, Covad Communications, Comcast, Siemens Corporation, etc.) on a broad spectrum of issues including the most effective manner by which to interconnect competing networks. Mr. Starkey's experience spans the landscape of competitive telephony including interconnection agreement negotiations, mediation, arbitration, and strategies aimed at maximizing new technology. Mr. Starkey's experience is often called upon as an expert witness. Mr. Starkey has since 1991 provided testimony in greater than 150 proceedings before approximately 40 state commissions, the FCC and courts of varying jurisdiction.

Mr. Starkey's expertise with competitive communications issues is rooted not only in his consulting experience, but also in his previous employment. Mr. Starkey has worked for the Missouri, Illinois and Maryland public utility commissions, including his most recent position as Director of the Maryland Commission's Telecommunications Division (and as the Senior Policy Analyst for the Illinois Commission's Office of Policy and Planning and Senior Economist with the Missouri Public Service Commission).

Educational Background

Bachelor of Science, Economics, International Marketing
Missouri State University, Cum Laude Honor Graduate

Graduate Coursework, Finance
Lincoln University

Numerous telecommunications industry training courses

Professional Experience

Competitive Strategies Group

1996 – 1999

Senior Vice President

Managing Director of Telecommunications
Services

Maryland Public Service Commission

1994-1995

Director

Telecommunications Division

Illinois Commerce Commission

1993 – 1994

Senior Policy Analyst

Office of Policy and Planning

Missouri Public Service Commission

1991-1993

Senior Economist

Utility Operations Division –
Telecommunications

Professional Activities

Missouri Universal Service Fund

Serve as the Co-Administrator chosen by the Missouri Public Service Commission to administer its intra-state Universal Service Fund (“USF”). Interact with Missouri’s telecommunications carriers and the Missouri Universal Service Board (i.e., the Commission and Public Counsel) to collect payments, fund requested disbursements and establish the overarching collection percentage applied to all Missouri, intra-state telecommunications revenues.

Facilitator, *C³ Coalition* (Competitive Carrier Coalition - Ameritech Region). Facilitate industry organization representing 10-15 competitive carriers seeking to share information and “best practices” with respect to obtaining effective interconnection, UNEs and resold services from SBC/Ameritech.

Former member of the Missouri Public Service Commission’s Task Force on FCC Docket Nos. 91-141 and 91-213 regarding expanded interconnection, collocation, and access transport restructure

Former member of the AT&T / Missouri Commission Staff, *Total Quality Management Forum* responsible for improving and streamlining the regulatory process for competitive carriers

Former member of the Missouri, Oklahoma, Kansas, Texas, and Arkansas five state Southwestern Bell Open Network Architecture (ONA) Oversight Conference

Former delegate to the Illinois, Michigan, Indiana, Ohio, and Wisconsin Ameritech Regional Regulatory Conference (ARRC) charged with the responsibility of analyzing Ameritech’s “Customers First” local exchange competitive framework for formulation of recommendations to the FCC and the U.S. Department of Justice

Former Co-Chairman of the Maryland Local Number Portability Industry Consortium responsible for developing and implementing a permanent database number portability solution

Former member of the Illinois Local Number Portability Industry Consortium responsible for developing and implementing a permanent database number portability solution

Declaration of Michael Starkey
CC Docket No. 01-92
WC Docket No. 04-36

Expert Testimony – Profile

The information below is Mr. Starkey's best effort to identify all proceedings wherein he has either provided pre-filed written testimony, an expert report or provided live testimony.

Before the Public Utilities Commission of the State of Colorado

Docket No. 06F-124T

McLeodUSA Telecommunications Services, Inc., v. Qwest Corporation

On behalf of McLeodUSA Telecommunications Services, Inc.

Before the Public Utilities Commission of the State of California

Case No. 06-03-023

Pacific Bell Telephone Company d/b/a AT&T California v. Cbeyond Communications, LLC (U 6446 C) and Covad Communications Company (U 5752 C)

On behalf of Cbeyond Communications LLC, Covad Communications Company, Mpower Communications, XO Communications Services, Inc. and Telepacific Communications

Before the Arizona Corporation Commission

Docket No. T-03267A-06-0105

Docket No. T-01051B-06-0105

In the Matter of McLeodUSA Telecommunications Services, Inc. v. Qwest Corporation

On behalf of McLeodUSA Telecommunications Services, Inc.

Before the Washington Utilities and Transportation Commission

Docket No. UT-063013

McLeodUSA Telecommunications Services, Inc., v. Qwest Corporation

On behalf of McLeodUSA Telecommunications Services, Inc.

Before the Public Service Commission of Utah

Docket No. 06-2249-01

In the Matter of the Complaint of McLeodUSA Telecommunications Services, Inc., against Qwest Corporation for Enforcement of Commission-Approved Interconnection Agreement

On behalf of McLeodUSA Telecommunications Services, Inc.

Before the Iowa Utilities Board, Department of Commerce

Docket No. FCU-06-20

McLeodUSA Telecommunications Services, Inc. v. Qwest Communications

On behalf of McLeodUSA Telecommunications Services, Inc.

Before the Illinois Commerce Commission

Docket No. 05-0575

Illinois Bell Telephone Company Compliance with Requirements of 13.505.1 of the Public Utilities Act (Payphone Rates)

On behalf of The Illinois Public Telecommunications Association

Before the Public Utilities Commission of the State of California

Application 05-07-024

Application of Pacific Bell Telephone Company, d/b/a SBC California for Generic Proceeding to Implement Changes in Federal Unbundling Rules Under Sections 251 and 252 of the Telecommunications Act of 1996

On behalf of MCIMetro Access Transmission Services, LLC, Covad Communications Company and Arrival Communications, Inc.



Declaration of Michael Starkey

CC Docket No. 01-92

WC Docket No. 04-36

Before the Public Service Commission of Wisconsin

Docket No. 6720-TI-108

Investigation of the Access Line Rates of Wisconsin Bell, Inc., d/b/a SBC Wisconsin, that Apply to Private Payphone Providers

On behalf of The Wisconsin Pay Telephone Association

Before the Public Utilities Commission of the State of California

Docket No. A.05-05-027

Application by Pacific Bell Telephone Company d/b/a SBC California (U 1001 C) for Arbitration of an Interconnection Agreement with MCIMetro Access Transmission Services LLC (U 5253 C) Pursuant to Section 252(b) of the Telecommunications Act of 1996.

On behalf of MCIMetro Access Transmission Services, LLC

Before the Michigan Public Service Commission

Case No. U-14447

In the matter, on the Commission's own motion to commence a collaborative proceeding to monitor and facilitate implementation of Accessible Letters issued by SBC Michigan and Verizon

On behalf of Covad Communications Company.

Before the Public Utilities Commission of Ohio

Case No. 05-887-TP-UNC

In the matter of the Establishment of Terms and Conditions of an Interconnection Agreement Amendment Pursuant To The Federal Communications Commission's Triennial Review Order and Its Order on Remand.

On behalf of MCIMetro Access Transmission Services, LLC

Before the Public Service Commission of Wisconsin

Docket No. 05-MA-138

Petition of MCIMetro Access Transmission Services, LLC and MCI WorldCom Communications, Inc. for Arbitration of Interconnection Terms and Conditions and Related Arrangements with Wisconsin Bell, Inc., d/b/a SBC Wisconsin Pursuant to Section 252(b) of the Telecommunications Act of 1996

On behalf of MCIMetro Access Transmission Services, LLC and MCI Worldcom Communications, Inc.

Indiana Utility Regulatory Commission

Cause No. 42893-INT 01

Indiana Bell Telephone Company, Incorporated d/b/a SBC Indiana Petition for Arbitration of Interconnection Rates Terms and Conditions and Related Arrangements with MCIMetro Access Transmission Services LLC, Intermedia Communications LLC, and MCI Worldcom Communications, Inc. Pursuant to Section 252(b) of the Telecommunications Act of 1996

On behalf of MCIMetro Access Transmission Services, LLC, Intermedia Communications, LLC and MCI Worldcom Communications, Inc.

Before the Illinois Commerce Commission

Docket No. 05-0442

Petition for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 with Illinois Bell Telephone Company to Amend Existing Interconnection Agreements to Incorporate the Triennial Review Order and the Triennial Review Remand Order

On behalf of Access One, Inc.; Broadview Networks, Inc.; BullsEye Telecom, Inc.; Cbeyond Communications, LLC; USXchange of Illinois, LLC, d/b/a ChoiceOne Communications; CIMCO Communications, Inc.; First Communications, LLC; Forte Communications, Inc.; Globalcom, Inc.; ICG Telecom Group, Inc.; King City Telephone, LLC, d/b/a Southern Illinois Communications; KMC Telecom V, Inc.; McLeodUSA Telecommunications Services, Inc.; Mpower Communications Corporation, d/b/a Mpower Communications of Illinois; Neutral Tandem – Illinois, LLC; New Edge Network, Inc.; nii



Declaration of Michael Starkey

CC Docket No. 01-92

WC Docket No. 04-36

Communications, Ltd.; Novacon Holdings, LLC; Nuvox Communications of Illinois, Inc.; OnFiber Carrier Services, Inc.; Talk America, Inc.; TCG Chicago; TCG Illinois; TDS Metrocom, LLC; and Trinsic Communications, Inc.

Before The Hawaii Public Utilities Commission

Docket No. 04-0140

Application of Paradise MergerSub, Inc., GTE Corporation, Verizon Hawaii Inc., Bell Atlantic Communications, Inc., and Verizon Select Services Inc. For Approval of a Merger Transaction and Related Matters

On behalf of the Hawaii Public Utilities Commission

Before the Illinois Commerce Commission

Docket No. 04-0469

Petition for Arbitration of Interconnection Rates, Terms and Conditions and Related Arrangements with Illinois Bell Telephone Company Pursuant to Section 252(b) of the Telecommunications Act of 1996

On behalf of MCI metro Access Transmission Services, LLC, MCI Worldcom Communications, Inc. and Intermedia Communications LLC

Before the Public Utility Commission of Texas

Docket No. 28821

Arbitration of Non-Costing Issues for Successor Interconnection Agreements to The Texas 271 Agreement.

On behalf of MCI metro Access Transmission Services, LLC

Before the Public Service Commission of Wisconsin

Docket No. 6720-TI-187

Petition of SBC Wisconsin to Determine Rates and Costs for Unbundled Network Elements

On behalf of AT&T Communications of Wisconsin, LP, TCG Milwaukee and MCI, Inc.

Before the Illinois Commerce Commission

Docket No. 02-0864

Filing to increase Unbundled Loop and Nonrecurring Rates (Tariffs filed December 24, 2002)

On behalf of *The CLEC Coalition* (AT&T, Worldcom, Inc., McLeodUSA, Covad, TDS Metrocom, Allegiance, RCN Telecom, Globalcom, Z-Tel, XO Illinois, Forte Communications, CIMCO Communications)

Before the Connecticut Department of Public Utility Control

Docket No. 03-09-01PH02

DPUC Implementation of the Federal Communications Commission's Triennial Review Order – Hot Cut/Batch

On behalf of MCI

Before the Public Utilities Commission of the State of California

Rulemaking 95-04-043, Investigation 95-04-044

Order Instituting Rulemaking on the Commission's Own Motion into Competition for Local Exchange Service.

On behalf of MCI metro, MCI Worldcom

Before the Public Utility Commission of Texas

Docket No. 28607

Impairment Analysis of Local Circuit Switching for the Mass Market

On behalf of MCI metro, MCI Worldcom, Brooks Fiber Communications of Texas

Before the State Corporation Commission of the State of Kansas

Declaration of Michael Starkey
CC Docket No. 01-92
WC Docket No. 04-36

Docket No. 03-GIMT-1063-GIT

In the Matter of a General Investigation to Implement the State Mandates of the Federal Communications Commission's Triennial Review Order
On behalf of MCImetro, MCI Worldcom

Before the Public Utilities Commission of Ohio

Case No. 04-34-TP-COI

In the Matter of the Implementation of the Federal Communications Commission's Triennial Review Regarding Local Circuit Switching in SBC Ohio's Mass Market
On behalf of MCImetro, MCI Worldcom

Before the Michigan Public Service Commission

Case No. U-13891

In the matter, on the Commission's own motion, to investigate and to implement, a batch cut migration process
On behalf of MCImetro, MCI Worldcom

Before the Michigan Public Service Commission

Case No. U-13796

In the matter, on the Commission's own motion, to facilitate the implementation of the Federal Communication Commission's Triennial Review determinations in Michigan
On behalf of MCImetro, MCI Worldcom

Before the Missouri Public Service Commission

Case No. TO-2004-0207

In the Matter of a Commission Inquiry into the Possibility of Impairment Without Unbundled Local Circuit Switching when Serving the Mass Market
On behalf of Sage Telecom, Inc.

Before the State of New York Public Service Commission

Case No. 02-C-1425

Proceeding on Motion of the Commission to Examine the Process, and Related Costs of Performing Loop Migrations on a More Streamlined (e.g., Bulk) Basis
On behalf of MCImetro, MCI Worlcom

Before the Indiana Utility Regulatory Commission

Cause No. 42393

In the Matter of the Commission Investigation and Generic Proceeding of Rates and Unbundled Network Elements and Collocation for Indiana Bell Telephone Company, Incorporated d/b/a SBC Indiana Pursuant to the Telecommunications Act of 1996 and Related Indiana Statutes
On behalf of The CLEC Coalition (AT&T, TCG Indianapolis, Worldcom, Inc., McLeodUSA, Covad, Z-Tel).

Before the Michigan Public Service Commission

Case No. U-13531

In the matter, on the Commission's own motion, to review the costs of telecommunications services provided by SBC Michigan
On behalf of AT&T, Worldcom, Inc., McLeodUSA and TDS Metrocom.

Before the Illinois Commerce Commission

Docket No. 03-0323

Petition to Determine Adjustments to UNE Loop Rates Pursuant to Section 13-408 of the Illinois Public Utilities Act



Declaration of Michael Starkey

CC Docket No. 01-92

WC Docket No. 04-36

On behalf of *The CLEC Coalition* (AT&T, Worldcom, Inc., McLeodUSA, Covad, TDS Metrocom, Allegiance, RCN Telecom, Globalcom, Z-Tel, XO Illinois, Forte Communications, CIMCO Communications)

Before the Public Utility Commission of Ohio

Case No. 96-1310-TP-COI

In the Matter of the Commission's Investigation into the Implementation of Section 276 of the Telecommunications Act of 1996 Regarding Pay Telephone Services

On behalf of the Payphone Association of Ohio

Before the Wisconsin Public Service Commission

Docket No. 6720-TI-177

Investigation Into Ameritech Wisconsin's Loop Conditioning Services and Practices

On behalf of WorldCom, Inc., AT&T Communications of Wisconsin, L.P. and TCG Milwaukee, McLeodUSA Telecommunications Services, Inc., TDS Metrocom, LLC

Before the Michigan Public Service Commission

Case No. U-11756 - REMAND

Complaint Pursuant to Sections 203 and 318 of the Michigan Telecommunications Act to Compel Respondents to Comply with Section 276 of the Federal Telecommunications Act

On behalf of the Michigan Pay Telephone Association

Before the New York Public Service Commission

Case No. 00-C-0127

Proceeding on the Motion of the Commission to Examine Issues Concerning Provision of Digital Subscriber Line Services

On behalf of MCI Worldcom Network Services, Inc.

Before the Indiana Utility Regulatory Commission

Cause No. 42236

Complaint of Time Warner Telecom Against Ameritech Indiana Regarding Its Unlawful Market Practice of Issuing Equipment Vouchers in Violation of the Indiana Code and Opportunity Indiana II and Petition for Emergency Suspension of any and all Ameritech Indiana Equipment Voucher Marketing Practices Pending Commission Investigation

On behalf of Time Warner Telecom of Indiana, LP

Before the Pennsylvania Public Utility Commission

Docket No. P-00930715F0002

Re: Verizon Pennsylvania Inc., Petition and Plan for Alternative Form of Regulation Under Chapter 30, 2000 Biennial Update to Network Modernization Plan

On behalf of MCI Worldcom Network Services, Inc.

Before the Illinois Commerce Commission

Docket No. 01-0609

Investigation of the propriety of the rates, terms, and conditions related to the provision of the Basic COPTS Port and the COPTS-Coin Line Port

On behalf of Payphone Services, Inc., DataNet Systems, LLC, Illinois Public Telecommunications Association

Before the Indiana Utility Regulatory Commission

Cause No. 40611-S1 (Phase II)



Declaration of Michael Starkey

CC Docket No. 01-92

WC Docket No. 04-36

In the Matter of: The Commission Investigation and Generic Proceeding on Ameritech Indiana's Rates for Interconnection Service, Unbundled Elements, and Transport and Termination under the Telecommunications Act of 1996 and Related Indiana Statutes

On behalf of AT&T, Worldcom, Inc., and McLeodUSA Telecommunications Services, Inc.

Before the State of North Carolina Utility Commission

Docket No. P-7, Sub 980, P-10, Sub 622

Enforcement of Interconnection Agreement Between KMC Telecom III, Inc. and KMC Telecom V, Inc., against Carolina Telephone and Telegraph Company and Central Telephone Company

On behalf of KMC Telecom, Inc.

Before the Illinois Commerce Commission

Docket Nos. 98-0252, 98-0335, 98-0764 (Reopening)

SBC/Ameritech Merger, Reopening to Discuss Settlement Agreement Regarding Merger Savings

On behalf of AT&T, Worldcom, Inc., and McLeodUSA Telecommunications Services, Inc.

Before the Public Utility Commission of Ohio

Docket No. 01-1319-TP-ARB

In the Matter of MCImetro Access Transmission Services, LLC Petition for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Interconnection Agreement with Ameritech Ohio

On behalf of MCIWorldcom, Inc.

Before the Illinois Commerce Commission

Docket No. 00-0393 (Rehearing)

Illinois Bell Telephone Company, d/b/a Ameritech Illinois Proposed Implementation of High Frequency Portion of the Loop (HFPL)/Line Sharing Service

On behalf of AT&T Communications of Illinois, Inc. and Worldcom, Inc.

Before the Wisconsin Public Service Commission

Case No. 6720-TI-167

Complaint Against Ameritech Wisconsin Filed by Wisconsin Builders Association, Inc.

On behalf of Wisconsin Builders Association, Inc.

Before the Public Service Commission of South Carolina

Docket No. 2001-65-C

In the Matter of Generic Proceeding to Establish Prices For BellSouth's Interconnection Services, Unbundled Network Elements and Other Related Elements and Services

On behalf of NuVox Communications, Broadslate Networks, KMC Telecom, New South Communications, ITC^Deltacom Communications

Before the Louisiana Public Service Commission

Docket No. 27821

In the Matter of Generic Proceeding to Establish Interim and Permanent Prices for Docket No. 27821

xDSL Loops and/or Related Elements and Services

On behalf of Covad Communications

Before the Public Utility Commission of Ohio

Case No. 00-942-TP-COI

In the Matter of the Further Investigation into Ameritech Ohio's Entry into In-Region Interlata Service Under Section 271 of the Telecommunications Act of 1996

On behalf of AT&T, WorldCom and XO Communications



Declaration of Michael Starkey

CC Docket No. 01-92

WC Docket No. 04-36

Before the Washington Utilities and Transportation Commission

Docket No. UT 003013, Part B

In the Matter of the Continued Costing and Pricing of Unbundled Network Elements, Transport and Termination

On behalf of Focal Communications, XO Washington, Inc.

Before the Illinois Commerce Commission

Docket No. 98-0195

Investigation into certain payphone Issues as directed in Docket No. 97-0225

On behalf of the Illinois Pay Telephone Association

Before the Alabama Public Service Commission

Docket No. 27821

Generic Proceeding to Establish Interim and Permanent Prices for xDSL Loops and/or Related Elements and Services

On behalf of The Data Coalition (Covad Communications and Broadslate Networks of Alabama, Inc.)

Before the Wisconsin Public Service Commission

Docket No. 6720-TI-160

Docket No. 6720-TI-161

Investigation Into Ameritech Wisconsin's Unbundled Network Elements

On behalf of AT&T, Worldcom, McLeodUSA, TDS Metrocom, KMC Telecom, Time Warner Telecom, Rhythms Links,

Before the Tennessee Regulatory Authority

Docket No. 00-00544

Generic Docket to Establish UNE Prices for Line Sharing per FCC 99-355, and Riser Cable and Terminating Wire as Ordered in Authority Docket No. 98-00123

On behalf of Covad Communications, Inc., Mpower Communications and BroadSlate Networks of Tennessee, Inc.

Before the Public Utilities Commission of the State of Hawaii

Docket No. 7702, Phase III

Instituting a Proceeding on Communications, Including an Investigation of the Communications Infrastructure of the State of Hawaii

On behalf of GST Telecom Hawaii, Inc.

Before the North Carolina Utilities Commission

Docket P100 Sub 133d, Phase II

General Proceeding to Determine Permanent Pricing for Unbundled Network elements

On behalf of a consortium of 13 new entrant carriers

Before the Federal Communications Commission

CCB/CPD No. 00-1

In the Matter of Wisconsin Public Service Commission Order Directing Filings

On behalf of the Wisconsin Pay Telephone Association

Before the North Carolina Utilities Commission

Docket P100 Sub 133d, Phase I

General Proceeding to Determine Permanent Pricing for Unbundled Network elements

On behalf of a consortium of 13 new entrant carriers

Before the State of New York Public Service Commission

Declaration of Michael Starkey

CC Docket No. 01-92

WC Docket No. 04-36

Case No. 98-C-1357

Proceeding on Motion of the Commission to Examine New York Telephone Company's Rates for Unbundled Network Elements

On behalf of the CLEC Coalition

Before the Public Utilities Commission of the State of California

Rulemaking 0-02-05

Order Instituting Rulemaking on the Commission's Own Motion into reciprocal compensation for telephone traffic transmitted to Internet Service Providers modems

On behalf of ICG Telecom Group, Inc.

Before the Public Utilities Commission of the State of Colorado

Docket No. 00B-103T

In the Matter of Petition by ICG Telecom Group, Inc. for Arbitration of an Interconnection Agreement with US West Communications, Inc. Pursuant to Section 252(b) of the Telecommunications Act of 1996.

On behalf of ICG Telecom Group, Inc.

Before the Delaware Public Service Commission

PSC Docket No. 00-205

For Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Interconnection Agreement with Bell Atlantic – Delaware, Inc.

On behalf of Focal Communications Corporation of Pennsylvania

Before the Georgia Public Service Commission

Case No. 11641-U

Petition of BlueStar Networks, Inc. for Arbitration with BellSouth Docket No. 11641-U Telecommunications, Inc. pursuant to Section 252(b) of the Telecommunications Act of 1996
On behalf of BlueStar Networks, Inc.**Before the New Jersey Board of Public Utilities**

Docket No. TO00030163

For Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Interconnection Agreement with Bell Atlantic-New Jersey, Inc.

On behalf of Focal Communications Corporation

Before the Pennsylvania Public Utility Commission

Docket No. A-310630F.0002

For Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Interconnection Agreement with Bell Atlantic-Pennsylvania

On behalf of Focal Communications Corporation

Before the Michigan Public Service Commission

Case No. U-12287

In the matter of the application, or in the alternative, complaint of AT&T COMMUNICATIONS OF MICHIGAN, INC. against Michigan Bell Telephone Company, D/B/A, Ameritech Michigan

On behalf of AT&T Communications of Michigan, Inc.

Before the Missouri Public Service Commission

Case No. 99-483

An Investigation for the Purpose of Clarifying and Determining Certain aspects Surrounding the Provisioning Of Metropolitan Calling Area Services After the Passage and Implementation Of the Telecommunications Act of 1996

On behalf of McLeodUSA Telecommunications Services, Inc.

Declaration of Michael Starkey

CC Docket No. 01-92

WC Docket No. 04-36

Before the Illinois Commerce Commission

Docket No. 98-0396

Investigation into the compliance of Illinois Bell Telephone Company with the order in Docket 96-0486/0569 Consolidated regarding the filing of tariffs and the accompanying cost studies for interconnection, unbundled network elements and local transport and termination and regarding end to end bundling issues.

On behalf of AT&T Communications of Illinois, Inc. and McLeodUSA Telecommunications Services, Inc.

Before the Illinois Commerce Commission

Docket No. 99-0593

Investigation of Construction Charges

On behalf of McLeodUSA Telecommunications Services, Inc., MCI WorldCom, Inc. and Allegiance Telecom, Inc.

Before the Public Service Commission of Wisconsin

Case No. 05-TI-283

Investigation of the Compensation Arrangements for the Exchange of Traffic Directed to Internet Service Providers

On behalf of AT&T Communications of Wisconsin, AT&T Local Services, KMC Telecom, Inc., MCI WorldCom, Inc., McLeodUSA Telecommunications Services, Inc., TDS MetroComm, Time Warner Telecom

Before the Public Utility Commission of Texas

Docket No. 21982

Proceeding to Examine Reciprocal Compensation Pursuant to Section 252 of the Federal Telecommunications Act of 1996

On behalf of ICG Communications, Inc.

Before the Public Service Commission of the Commonwealth of Kentucky

Case No. 99-498

Petition of BlueStar Networks, Inc. for Arbitration with BellSouth Telecommunications, Inc. Pursuant to Section 252 of the Telecommunications Act of 1996.

On behalf of BlueStar Networks, Inc.

Before the Illinois Commerce Commission

Docket No. 00-0027

Petition for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Interconnection Agreement with Illinois Bell Telephone Company d/b/a Ameritech Illinois.

On behalf of Focal Communications Corporation of Illinois

Before The Indiana Utility Regulatory Commission

Cause No. 41570

In the Matter of the Complaint of McLeodUSA Telecommunications Services, Inc. against Indiana Bell Telephone Company, Incorporated, d/b/a Ameritech Indiana, Pursuant to the Provisions of I.C. §§ 8-1-2-54, 8-1-2-68, 8-1-2-103 and 8-1-2-104 Concerning the Imposition of Special Construction Charges.

On behalf of McLeodUSA Telecommunications Services, Inc.

Before the Florida Public Service Commission

Docket No. 991838-TP

Petition for Arbitration of BlueStar Networks, Inc. with BellSouth Telecommunications, Inc. Pursuant to the Telecommunications Act of 1996

On behalf of BlueStar Networks, Inc.



Declaration of Michael Starkey

CC Docket No. 01-92

WC Docket No. 04-36

Before the Public Utility Commission of Ohio

Case No. 99-1153-TP-ARB

In the Matter of ICG Telecom Group, Inc.'s Petition For Arbitration of Interconnection Rates, Terms and Conditions and Related Arrangements with Ameritech Ohio

On behalf of ICG Telecom Group, Inc.

Before the Public Utility Commission of Oregon

ARB 154

Petition for Arbitration of GST Telecom Oregon, Inc. Against US West Communications, Inc. Under 47 U.S.C. §252(b)

On behalf of GST Telecom Oregon, Inc.

Before the Michigan Public Service Commission

Docket No. U-12072

In the matter of the application and complaint of Worldcom Technologies Inc. (f/k/a MFS Intelenet of Michigan, Inc., and MCI Worldcom company) against Michigan Bell Telephone Company d/b/a Ameritech Michigan, Ameritech Services, Inc., Ameritech Information Industry Services, and Ameritech Long Distance Services relating to unbundled interoffice transport.

On behalf of WorldCom Technologies, Inc.

Before the Illinois Commerce Commission

Docket No. 99-0525

Ovation Communications, Inc. d/b/a McLeodUSA, Complaint Against Illinois Bell Telephone Company d/b/a Ameritech Illinois, Under Sections 13-514 and 13-515 of the Public Utilities Act Concerning the Imposition of Special Construction Charges and Seeking Emergency Relief Pursuant to Section 13-515(e)

On behalf of McLeodUSA

Before the Public Service Commission of the Commonwealth of Kentucky

Case No. 99-218

Petition of ICG Telecom Group, Inc. for Arbitration with BellSouth Telecommunications, Inc. Pursuant to Section 252 of the Telecommunications Act of 1996.

On behalf of ICG Telecom Group, Inc.

Before the Tennessee Regulatory Authority

Docket No. 1999-259-C

Petition for Arbitration of ITC^DeltaCom Communications, Inc. with BellSouth Telecommunications, Inc. Pursuant to the Telecommunications Act of 1996

On behalf of ICG Communications, Inc.

Before the New Mexico Public Regulation Commission

Case No. 3131

In the Matter of GST Telecom New Mexico, Inc.'s Petition for Arbitration Against US West Communications, Inc., Under 47 U.S.C. § 252(b).

On behalf of GST Telecom New Mexico, Inc.

Before the Georgia Public Service Commission

Docket No. 10767-U

Petition of ICG Telecom Group, Inc. for Arbitration with BellSouth Telecommunications, Inc. Pursuant to Section 252 of the Telecommunications Act of 1996.

On behalf of ICG Telecom Group, Inc.

Before the Public Service Commission of New York



Declaration of Michael Starkey
CC Docket No. 01-92
WC Docket No. 04-36

Case No. 99-C-0529

Proceeding on Motion of the Commission to Re-examine Reciprocal Compensation
On behalf of Focal Communications, Inc.

Before the Florida Public Service Commission

Docket No. 990691-TP

Petition by ICG Telecom Group, Inc. for Arbitration of an Interconnection Agreement with BellSouth Telecommunications, Inc. Pursuant to Section 252(b) of the Telecommunications Act of 1996
On behalf of ICG Telecom Group, Inc.

Before the Louisiana Public Service Commission

Docket No. U-24206

Petition for Arbitration of ITC^DeltaCom Communications, Inc. with BellSouth Telecommunications, Inc. Pursuant to the Telecommunications Act of 1996
On behalf of ITC^DeltaCom, Inc.

Before the South Carolina Public Service Commission

Docket No. 199-259-C

Petition for Arbitration of ITC^DeltaCom Communications, Inc. with BellSouth Telecommunications, Inc. Pursuant to the Telecommunications Act of 1996
On behalf of ITC^DeltaCom, Inc.

Before the Alabama Public Service Commission

Docket No. 27069

Petition by ICG Telecom Group, Inc. for Arbitration of an Interconnection Agreement with BellSouth Telecommunications, Inc. Pursuant to Section 252(b) of the Telecommunications Act of 1996
On behalf of ICG Telecom Group, Inc.

Before the State of North Carolina Utilities Commission

Docket No. P-582, Sub 6

Petition by ICG Telecom Group, Inc. for Arbitration of Interconnection Agreement with BellSouth Telecommunications, Inc. Pursuant to Section 252(b) of the Telecommunications Act of 1996
On behalf of ICG Telecom Group, Inc.

Before the Missouri Public Service Commission

Case No. TO-99-370

Petition of BroadSpan Communications, Inc. for Arbitration of Unresolved Interconnection Issues Regarding ADSL with Southwestern Bell Telephone Company
On behalf of BroadSpan Communications, Inc.

Before the Michigan Public Service Commission

Case No. U-11831

In the Matter of the Commission's own motion, to consider the total service long run incremental costs for all access, toll, and local exchange services provided by Ameritech Michigan.
On behalf of MCIWorldCom, Inc.

Before the Illinois Commerce Commission

Docket Nos. 98-0770, 98-0771 cons.

Proposed Modifications to Terms and Conditions Governing the Provision of Special Construction Arrangements and, Investigation into Tariff Governing the Provision of Special Constructions Arrangements
On behalf of AT&T Communications of Illinois, Inc.



Declaration of Michael Starkey

CC Docket No. 01-92

WC Docket No. 04-36

Before the Michigan Public Service Commission

Case No. U-11735

In the matter of the complaint of BRE Communications, L.L.C., d/b/a PHONE MICHIGAN, against Michigan Bell Telephone Company, d/b/a AMERITECH MICHIGAN, for violations of the Michigan Telecommunications Act

On behalf of BRE Communications, L.L.C.

Before the Indiana Utility Regulatory Commission

Cause No. 40830

In the Matter of the request of the Indiana Payphone Association for the Commission to Conduct an Investigation of Local Exchange Company Pay Telephone tariffs for Compliance with Federal Regulations, and to Hold Such Tariffs in Abeyance Pending Completion of Such Proceeding

On behalf of the Indiana Payphone Association

Before the Michigan Public Service Commission

Case No. U-11756

Complaint Pursuant to Sections 203 and 318 of the Michigan Telecommunications Act to Compel Respondents to Comply with Section 276 of the Federal Telecommunications Act

On behalf of the Michigan Pay Telephone Association

Before the Missouri Public Service Commission

Case No. TO-98-278

In the Matter of the Petition of Birch Telecom of Missouri, Inc., for Arbitration of the Rates, Terms, Conditions, and Related Arrangements for Interconnection with Southwestern Bell Telephone Company

On behalf of Birch Telecom of Missouri, Inc.

Before the Public Service Commission of the Commonwealth of Kentucky

Administrative Case No. 361

Deregulation of Local Exchange Companies' Payphone Services

On behalf of the Kentucky Payphone Association

Before the Public Utilities Commission of Ohio

Case No. 96-899-TP-ALT

The Application of Cincinnati Bell Telephone Company for Approval of a Retail Pricing Plan Which May Result in Future Rate Increases

On behalf of the MCI Telecommunications Corporation

Before the Public Utilities Commission of the State of Hawaii

Docket No. 7702

Instituting a Proceeding on Communications, Including an Investigation of the Communications Infrastructure of the State of Hawaii

On behalf of GST Telecom Hawaii, Inc.

Before the Michigan Public Service Commission

Case No. U-11410

In the Matter of the Petition of the Michigan Pay Telephone Association to initiate an investigation to determine whether Michigan Bell Telephone Company d/b/a Ameritech Michigan and GTE North Incorporated are in compliance with the Michigan Telecommunications Act and Section 276 of The Communications Act of 1934, as amended

On behalf of the Michigan Pay Telephone Association

Before the Indiana Utility Regulatory Commission

Cause No. 40849

Declaration of Michael Starkey

CC Docket No. 01-92

WC Docket No. 04-36

In the matter of Petition of Indiana Bell Telephone Company, Incorporated d/b/a Ameritech Indiana for the Commission to Decline to Exercise in Whole or in Part its Jurisdiction Over, and to Utilize Alternative Regulatory Procedures For, Ameritech Indiana's Provision of Retail and Carrier Access Services Pursuant to I.C. 8-1-2.6 Et Seq.

On behalf of AT&T Communications of Indiana, Inc.

Before the Federal Communication Commission

C.C. Docket No. 97-137

In the Matter of Application by Ameritech Michigan for Authorization under Section 271 of the Communications Act to Provide In-Region, InterLATA Service in the State of Michigan.

On behalf of the AT&T Corporation

Before the Indiana Utility Regulatory Commission

Cause No. 40611

In the Matter of the Commission Investigation and Generic Proceeding on Ameritech Indiana's Rates for Interconnection, Service, Unbundled Elements and Transport and Termination under the Telecommunications Act of 1996 and Related Indiana Statutes

On behalf of the MCI Telecommunications Corporation

Before the Public Utility Commission of Ohio

Case No. 97-152-TP-ARB

In the matter of the petition of MCI Telecommunications Corporation for arbitration pursuant to section 252(b) of the Telecommunications Act of 1996 to establish an interconnection agreement with Cincinnati Bell Telephone Company

On behalf of the MCI Telecommunications Corporation

Before the Michigan Public Service Commission

Case No. U-11280

In the matter, on the Commission's own motion to consider the total service long run incremental costs and to determine the prices of unbundled network elements, interconnection services, and basic local exchange services for AMERITECH MICHIGAN

On behalf of the MCI Telecommunications Corporation

Before the Illinois Commerce Commission

Docket No. 96-0486

Investigation into forward looking cost studies and rates of Ameritech Illinois for interconnection, network elements, transport and termination of traffic

On behalf of the MCI Telecommunications Corporation

Before the Public Utility Commission of Ohio

Case No. 96-922-TP-UNC

In the Matter of the Review of Ameritech Ohio's Economic Costs for Interconnection, Unbundled Network Elements, and Reciprocal Compensation for Transport and Termination of Local Telecommunications Traffic

On behalf of the MCI Telecommunications Corporation

Before the New Jersey Board of Public Utilities

Docket No. TX95120631

In the Matter of the Investigation Regarding Local Exchange Competition for Telecommunications Services

On behalf of the MCI Telecommunications Corporation

Before the Michigan Public Service Commission

Case No. U-11104

Declaration of Michael Starkey

CC Docket No. 01-92

WC Docket No. 04-36

In the matter, on the Commission's Own Motion, to Consider Ameritech Michigan's Compliance With the Competitive Checklist in Section 271 of the Telecommunications Act of 1996

On behalf of AT&T Communications of Indiana, Inc.

Before the Public Utility Commission of Ohio

Case Nos. 96-702-TP-COI, 96-922-TP-UNC, 96-973-TP-ATA, 96-974-TP-ATA, Case No. 96-1057-TP-UNC

In the Matter of the Investigation Into Ameritech Ohio's Entry Into In-Region InterLATA Services Under Section 271 of the Telecommunications Act of 1996.

On behalf of AT&T Communications of Ohio, Inc.

Before the Illinois Commerce Commission

Docket No. 96-0404

Investigation Concerning Illinois Bell Telephone Company's Compliance With Section 271(c) of the Telecommunications Act of 1996

On behalf of AT&T Communications of Illinois, Inc.

Before the Commonwealth of Massachusetts Department of Public Utilities

In the Matter of: D.P.U. 96-73/74, D.P.U. 96-75, D.P.U. 96-80/81, D.P.U. 96-83, D.P.U. 96-94, NYNEX - Arbitrations

On behalf of the MCI Telecommunications Corporation

Before the Pennsylvania Public Utility Commission

Docket No. A-31023670002

In the Matter of the Application of MCI Metro Access Transmission Services, Inc. For a Certificate of Public Convenience and Necessity to Provide and Resell Local Exchange Telecommunications Services in Pennsylvania

On behalf of MCI metro Access and Transmission Services, Inc.

Before the New Jersey Board of Public Utilities

Docket No. TO96080621

In the Matter of MCI Telecommunications Corporation for Arbitration with Bell Atlantic-New Jersey, Inc. Pursuant to Section 252 of the Telecommunications Act of 1996

On behalf of the MCI Telecommunications Corporation

Before the Indiana Utility Regulatory Commission

Cause No. 40571-INT-01

Petition for Arbitration of Interconnection Rates, Terms and Conditions, and Related Arrangements with Wisconsin Bell Telephone Company d/b/a Ameritech Wisconsin

On behalf of AT&T Communications of Wisconsin, Inc.

Before the Public Utility Commission of Ohio

Case No. 96-752-TP-ARB

Petition for Arbitration of Interconnection Rates, Terms and Conditions, and Related Arrangements with Ohio Bell Telephone Company d/b/a Ameritech Ohio

On behalf of AT&T Communications of Ohio, Inc.

Before the Illinois Commerce Commission

Docket No. 96-AB-003

Docket No. 96-AB-004 *Consol.*

Petition for Arbitration of Interconnection Rates, Terms and Conditions, and Related Arrangements with Illinois Bell Telephone Company d/b/a Ameritech Illinois

On behalf of AT&T Communications of Illinois, Inc.

Declaration of Michael Starkey

CC Docket No. 01-92

WC Docket No. 04-36

Before the Michigan Public Service Commission

Case No. U-11151

Petition for Arbitration of Interconnection Rates, Terms and Conditions, and Related Arrangements with Michigan Bell Telephone Company d/b/a Ameritech Michigan

On behalf of AT&T Communications of Michigan, Inc.

Before the Indiana Utility Regulatory Commission

Cause No. 40571-INT-01

In the Matter of the Petition of AT&T Communications of Indiana, Inc. Requesting Arbitration of Certain Terms and Conditions and Prices for Interconnection and Related Arrangements from Indiana Bell Telephone Company, Incorporated d/b/a Ameritech Indiana Pursuant to Section 252 (b) of the Communications Act of 1934, as Amended by the Telecommunications Act of 1996.

On behalf of AT&T Communications of Indiana, Inc.

Before the Missouri Public Service Commission

Case No. TT-96-268

Application of Southwestern Bell Telephone Company, Inc. to Revise P.S.C. Mo.-No. 26, Long Distance Message Telecommunications Service Tariff to Introduce the Designated Number Optional Calling Plan

On behalf of the MCI Telecommunications Corporation

Before the Corporation Commission of the State of Oklahoma

Cause No. PUD 950000411

*Application of Southwestern Bell Telephone Company for an Order Approving Proposed Revisions in Applicant's Long Distance Message Telecommunications Service Tariff**Southwestern Bell Telephone Company's Introduction of 1+ Saver Directsm*

On behalf of the MCI Telecommunications Corporation

Before the Georgia Public Service Commission

Docket No. 6415-U and 6537-U cons.

Petition of MCImetro to Establish Nondiscriminatory Rates, Terms and Conditions for the Unbundling and Resale of Local Loops

On behalf of MCImetro Access Transmission Services

Before the Public Service Commission of the State of Mississippi

Docket No. 95-UA-358

Regarding a Docket to Consider Competition in the Provision of Local Telephone Service

On behalf of the Mississippi Cable Television Association

Before the Maryland Public Service Commission

Docket No. 8705

In the Matter of the Inquiry Into the Merits of Alternative Plans for New Telephone Area Codes in Maryland

On behalf of the Staff of the Maryland Public Service Commission

Before the Maryland Public Service Commission

Docket No. 8584, Phase II

*In the Matter of the Application of MFS Intelenet of Maryland, Inc. for Authority to Provide and Resell Local Exchange and Inter-Exchange Telephone Service; and Requesting the Establishment of Policies and Requirements for the Interconnection of Competing Local Exchange Networks**In the Matter of the Investigation of the Commission on its Own Motion Into Policies Regarding Competitive Local Exchange Telephone Service*



Declaration of Michael Starkey
CC Docket No. 01-92
WC Docket No. 04-36

On behalf of the Staff of the Maryland Public Service Commission

Before the Illinois Commerce Commission

Docket No. 94-0400

Application of MCI Metro Access and Transmission Services, Inc. For a Certificate of Exchange Service Authority Allowing it to Provide Facilities-Based Local Service in the Chicago LATA

On behalf of the Office of Policy and Planning, Illinois Commerce Commission

Before the Illinois Commerce Commission

Docket No. 94-0315

Petition of Ameritech-Illinois for 708 NPA Relief by Establishing 630 Area Code

On behalf of the Office of Policy and Planning, Illinois Commerce Commission

Before the Illinois Commerce Commission

Docket No. 94-0422

Complaints of MFS, TC Systems, and MCI against Ameritech-Illinois Regarding Failure to Interconnect

On behalf of the Office of Policy and Planning, Illinois Commerce Commission

Before the Illinois Commerce Commission

Docket Nos. 94-0096, 94-0117, and 94-301

Proposed Introduction of a Trial of Ameritech's Customers First Plan in Illinois, et al.

On behalf of the Office of Policy and Planning, Illinois Commerce Commission

Before the Illinois Commerce Commission

Docket No. 94-0049

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On behalf of the Office of Policy and Planning, Illinois Commerce Commission

Before the Illinois Commerce Commission

Docket No. 93-0409

MFS-Intelenet of Illinois, Inc. Application for an Amendment to its Certificate of Service Authority to Permit it to Operate as a Competitive Local Exchange Carrier of Business Services in Those Portions of MSA-1 Served by Illinois Bell Telephone and Central Telephone Company of Illinois

On behalf of the Office of Policy and Planning, Illinois Commerce Commission

Before the Illinois Commerce Commission

Docket No. 94-0042, 94-0043, 94-0045, and 94-0046

Illinois Commerce Commission on its own motion. Investigation Regarding the Access Transport Rate Elements for Illinois Consolidated Telephone Company (ICTC), Ameritech-Illinois, GTE North, GTE South, and Central Telephone Company (Centel)

On behalf of the Office of Policy and Planning, Illinois Commerce Commission

Before the Illinois Commerce Commission

Docket No. 93-0301 and 94-0041

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On behalf of the Office of Policy and Planning, Illinois Commerce Commission

Before the Public Service Commission of the State of Missouri

Case No. TC-93-224 and TO-93-192

In the Matter of Proposals to Establish an Alternate Regulation Plan for Southwestern Bell Telephone Company

On behalf of the Telecommunications Department, Missouri Public Service Commission

Declaration of Michael Starkey

CC Docket No. 01-92

WC Docket No. 04-36

Before the Public Service Commission of the State of Missouri

Case No. TO-93-116

In the Matter of Southwestern Bell Telephone Company's Application for Classification of Certain Services as Transitionally Competitive

On behalf of the Telecommunications Department, Missouri Public Service Commission

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August 2008

*IP-Enabled Voice Services**Impact of Applying Switched Access Charges to IP-PSTN Voice Services*

FCC Wireline Competition Bureau Docket Nos. 04-36, 03-266

January 2005

*Final Report**Analysis and Recommendations Related to Docket No. 04-0140**Merger Application of Paradise Mergersub, Inc. (n/k/a Hawaiian Telecom Mergersub, Inc.), Verizon Hawaii, Inc. and Related Companies.*

On behalf of the Hawaii Public Utilities Commission

Submitted February 3, 2005

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Two Day Teaching Seminar for Public Utility Commissions and their Staff (Western States)

Denver, Colorado, February 5&6, 2002

*Interconnect Pricing**Critique of FCC Working Paper Nos. 33 & 34*

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Declaration of Michael Starkey

CC Docket No. 01-92

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Fundamentals of Local Competition and Potential Dangers for Interexchange Carriers

COMPTEL 1995 Summer Business Conference
Seattle, Washington, June 12, 1995



QSI Policy Analysis

Document Number: 052008A

EXCHANGE ACCESS RATES FOR COMPETITIVE LOCAL EXCHANGE CARRIERS

A Basis for Economically Rational Pricing Policies

August 2008

Contributors:

August H. Ankum, Ph.D.
Olesya Denney, Ph.D.
A. E. Rodriguez, Ph.D.
Patrick Phipps
Michael Starkey



Contact Information

2977 Highway K
Box #304
O'Fallon, MO 63366-7862
www.qsiconsulting.com

NOTE

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QSI Consulting, Inc. is a consulting firm specializing in traditional and non-traditional network industries, econometric analysis, technology convergence and computer-aided modeling. QSI's consultants provide services to a wide array of clients, including multi-billion dollar telecommunications firms, small start-up companies, state legislatures and regulatory agencies.

QSI Consulting, Inc.
O'Fallon, Missouri, USA

Contacts:

Michael Starkey	Phone: 636 272 4127	E-mail: mstarkey@qsiconsulting.com
August H. Ankum	Phone: 215 238 1180	E-mail: gankum@qsiconsulting.com

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ATTACHMENTS

ATTACHMENT I: **Formal Market Dominance Analysis**

Clearly, the “competitive rate level” for exchange access services sought by advocates of benchmarking policies does not exist with respect to large ILECs exchange access rates. Therefore, to require CLECs to benchmark their rates against the hodge-podge of ILEC rates would not bring the industry any closer to “competitive” exchange access rates; rather it would simply require CLECs to mirror the same hodgepodge that exists today without any discernable benefit.

ii. CLECs Are Not In a Position to Reject IXC Traffic

Those who advocate benchmarking policies based on the notion that competitive markets impose uniform price levels also overlook that CLECs are *obligated* to accommodate the IXCs’ exchange access traffic.⁷⁶ In competitive markets, companies generally have the option to scale back their sales and market share when price is not compensatory, which is not the case for CLECs in exchange access markets. CLECs have no choice but to accommodate the IXCs’ exchange access traffic – whether or not the CLEC is being fairly compensated. Of course, CLECs can scale back their overall presence in an ILEC’s territory, in which case they would not need to accommodate as much IXC traffic. However, this dynamic gives the large ILECs that have long distance affiliates (such as AT&T and Verizon) control over their retail competitors, the CLECs, by leveraging their monopsony power in wholesale markets. That is, by withholding payments for wholesale exchange access traffic, companies such as AT&T and Verizon are able to handicap CLECs in their ability to compete in retail markets. This corrosive dynamic, which is reinforced with benchmarking policies, undermines the retail competition that public policy has sought to foster since the passage of Telecom Act.

In any event, it is inconsistent to require benchmarking of CLEC exchange access rates based on the notion that it emulates a competitive market – i.e., *meet the market price or leave* – while at the same time obligating CLECs to accommodate the IXCs’ traffic, irrespective of whether prices are compensatory.

**VI. WHOLESALE RATES SHOULD BE COMPENSATORY:
CLECS AND LARGE ILECS ARE DIFFERENTLY SITUATED
AND HAVE DIFFERENT WHOLESALE COSTS**

A one-size-fits-all approach inherent in benchmarking policies is inconsistent with standing regulatory policies that consider individual company costs in

⁷⁶ Irrespective of whether a CLEC has a legal obligation to terminate or originate long distance traffic on behalf of IXCs, here our concern is the real-world option of CLECs to reject IXC traffic – an option that does not exist, especially with respect to the largest IXCs. No CLEC could compete effectively if its end users were unable to receive calls from the nations’ largest IXCs – indeed, anywhere from 60% to 80% of all calls to the CLEC’s end users would not be completed.

setting wholesale rates: switched access rates vary from state to state and from company to company, and so do wholesale UNE rates. In the event it is determined that regulatory intervention is needed to cap CLEC access rates, wholesale rates should be set based on considerations of individual company costs not on some arbitrary benchmark. Capping CLEC exchange access rates at levels set for the world's largest, vertically and horizontally integrated ILECs is unfair and bad public policy.

A. The Touchstone for Just and Reasonable Rates is Cost

It is standard practice in public utility regulation to either explicitly or implicitly examine rate-setting practices against the backdrop of the regulated firm's costs. This is true whether the discussion concerns traditional rate of return regulation or other forms of regulation. As the United Supreme Court noted:

The enduring feature of ratesetting from *Smyth v. Ames* to the institution of price caps was the idea that calculating a rate base and then allowing a fair rate of return on it was a sensible way to identify a range of rates that would be just and reasonable to investors and ratepayers.⁷⁷

When rates are set below costs, it may lead to under-recovery and cross-subsidies or constitute such anti-competitive practices as predation. When rates are set too high, it may lead to over-recovery of costs and represent an exercise of market power. Generally, economists advocate that rates be set at costs to provide the appropriate price signals and to prevent other distortions. The rare exception to this rule is when regulators have other pressing public policy concerns, such as the pursuit of universal service.⁷⁸

For the better part of the twentieth century, much of public utility regulation, and certainly the regulation of telecommunications utilities, involved traditional rate-base/cost-of-service regulation. While allocations of costs across various customer classes and jurisdictions (such as intrastate and interstate) might have been impacted by universal service policies, the ultimate basis for rates and revenues was costs. Even as telecommunications regulation moved away from traditional rate-base regulation in the latter part of the twentieth century, the FCC continued to emphasize costs as the relevant benchmark for just and reasonable rates. The notion that costs have been and remain the ultimate benchmark for just and reasonable rates is generally recognized and is evinced by such FCC statements as:

⁷⁷ See *Verizon v. FCC*, 535 U.S. at 487-88.

⁷⁸ Prior to the Act, state commissions deliberately set some rates above cost in order to keep rates for basic local telephone service low, particularly in areas such as rural areas where costs are high. The Act eliminated such implicit subsidies and required that the FCC establish an explicit funding mechanism. Some states have established an explicit funding mechanism to support universal service.

The Communications Act requires that rates be just and reasonable and not create unreasonable discrimination or undue preference. Section 201(b) and 202(a), 47 U.S.C. §§ 201(b), 202(a). [...] ***Costs are traditionally and naturally a benchmark for evaluating the reasonableness of rates.***⁷⁹

About a decade later, after the passage of the Telecommunications Act of 1996, the FCC reiterated the identical notion and language:

[C]osts are traditionally and naturally a benchmark for evaluating the reasonableness of rates under Section 201(b) of the Act.⁸⁰

The linkage of costs with just and reasonable rates typically runs through FCC orders involving rate setting issues, particularly where it concerns carriers accessing one another's facilities. For example, in its 1997 *Expanded Interconnection Order*, the FCC, in line with its long standing tradition, again established costs as the appropriate benchmark for just, reasonable and nondiscriminatory rates:

It is clear that the success of efficient competitive entry through interconnection depends on the interconnectors' ability to obtain access to the LEC's transmission facilities ***at rates that reflect costs*** under terms, and conditions that are ***just and reasonable***. Pursuant to sections ***201 through 205*** of the Communications Act of 1934 ... we are using the tariff review process to ensure that LECs provide interstate expanded interconnection service at rates, terms and conditions that are just, reasonable and nondiscriminatory.⁸¹

The FCC's approach is consistent across various arenas of its jurisdiction. For example, in 2004, in evaluating whether rates charged by certain international carriers were "just and reasonable," the FCC again evaluated costs of providing the services:

The Commission determined that ***above-cost settlement rates*** paid by U.S. carriers to terminate international traffic are neither ***just nor reasonable***, and it acted pursuant to its statutory authority in Section 201(b) of the Communications Act to prohibit U.S. carriers from continuing to pay such charges.⁸²

⁷⁹ *Investigation of Special Access Tariffs of Local Exchange Carriers*, Memorandum Opinion and Order, 4 FCC Rcd 4797, 4799, at ¶ 32 (1988) ("*Special Access Tariff Order*"). (emphasis added)

⁸⁰ *In the Matter of INFONXX, Inc., Complainant, v. New York Telephone Co., Defendant*. Memorandum Opinion and Order, 13 FCC Rcd 3589, 3597, at ¶ 15 (1997).

⁸¹ *In the Matter of Local Exchange Carriers' Rates, Terms, and Conditions for Expanded Interconnection Through Physical Collocation for Special Access and Switched Transport*, Second Report and Order, 12 FCC Rcd 18730, 18733, at ¶ 2 (1997) ("*Expanded Interconnection Order*"). (emphasis added)

⁸² *In the Matter of International Settlements Policy Reform International Settlement Rates*, First Report and Order, 19 FCC Rcd 5709, 5742, ¶ 74 (2004). (emphasis added)

In a complaint case in 2001, the FCC also used costs as a benchmark for whether rates were just and reasonable:

In this memorandum Opinion and Order, we examine, as requested by the court, whether or not the billing practices described in Count I of Plaintiffs' Third Amended Complaint are per se unjust and or unreasonable under Section 201(b). The factors we consider include *the relationship of carrier costs to the billing charges* or practices...⁸³

The same is true in yet another complaint proceeding; as the FCC found:

[T]he Commission considers three factors in determining whether a CMRS provider has *violated section 201(b) of the Act*: (1) the relationship of carrier *costs to billing charges or practices*; (2) consumers' expectations based on wireline experience; and (3) the role of the competitive markets. (Emphasis added.)⁸⁴

In sum, the FCC has well established that the term "just and reasonable" is inherently tied to costs.

The FCC has repeatedly referenced standard economic theory concerning the benefits of cost-based pricing policies. Going back almost two decades, a good example of how the FCC explained its cost-based pricing policies is the following:

Costs are traditionally and naturally a benchmark for evaluating the *reasonableness of rates*, because cost based rates both deliver price signals which contribute to efficient use of networks and generally distribute network costs to the customer who causes those costs.⁸⁵

In its *Local Competition Order*, the FCC again cited the signaling function of cost-based prices as the predominant reason for mandating the use of forward-looking incremental costs to set cost-based rates as required by section 252(d)(1) of the Act:

We observed in the NPRM that *economists generally agree* that prices based on forward-looking long-run incremental costs (LRIC) give

⁸³ *In the Matter of Petition for Declaratory Ruling on Issues Contained in Count I of White v. GTE*, Memorandum Opinion and Order, 16 FCC Rcd 11558, 11560, ¶ 8 (2001). (emphasis added)

⁸⁴ *In the Matter of Bruce Gilmore, Claudia McGuire, The Great Frame Up Systems, Inc., and Pesger, Inc., d/b/a The Great Frame Up v. Southwestern Bell Mobile Systems, L.L.C., d/b/a Cingular wireless*, Memorandum Opinion and Order, 20 FCC Rcd 15079, 15083, ¶ 11 (2005). (emphasis added)

⁸⁵ *Special Access Tariff Order*, 4 FCC Rcd at 4799, ¶ 32. (emphasis added)

appropriate signals to producers and consumers and ensure *efficient entry and utilization* of the telecommunications infrastructure.⁸⁶

In short, the FCC has repeatedly recognized standard economic principles in supporting pricing policies that establish rates in close alignment with costs.

B. CLECs Do Not Have the Economies of Scale and Scope of Large ILECs and Will Generally Have Higher Per-Unit Costs

Regulators, such as the FCC, as well as entities such as the Universal Service Administration Company (“USAC”), have repeatedly recognized that CLECs and small ILECs have higher costs than other, larger incumbent carriers. Further, the FCC in its *CLEC Access Reform Order* provided a different standard for rural CLECs, noting that higher costs (in this circumstance as a result of rural subscribership) must be recognized within regulated rates.⁸⁷

However, it is not the “rural” nature of the cost landscape that makes a network intrinsically high-cost; rather, it is the size and density of the network. And, even though many CLECs may operate in densely populated areas, the nature of their new entrant status generally implies that they serve relatively few customers that are geographically dispersed. In this aspect of their operations, they are much like rural carriers.

The relationship between *scale economies and costs* is well-recognized by the FCC:

Fixed costs are the largest portion of the cost of a switch. The average cost of providing service to customers decreases as the number of customers served increases. As a general rule, we find that scale economies are more pronounced when switches operate at full utilization. Because incumbent LEC switches serve the majority of customers for local exchange service, they are likely to be able to take advantage of substantially greater economies of scale than the competitor would using its own switches.⁸⁸

Another instance in which the FCC recognized the relationship between size and costs is the following:

⁸⁶ *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket No. 96-98, First Report and Order, 11 FCC Rcd 15499 (1996), ¶ 360 (“*Local Competition Order*”), aff’d in part and vacated in part sub nom. *Comp. Tel. Assoc. v. FCC*, 117 F.3d 1068 (8th Cir. 1997) and *Iowa Utils. Bd. v. FCC*, 120 F.3d 753 (8th Cir. 1997), aff’d in part and remanded, *AT&T v. Iowa Utils. Bd.*, 525 U.S. 366 (1999); on remand *Iowa Utils. Bd. v. FCC*, 219 F.3d 744 (8th Cir. 2000), reversed in part sub nom. *Verizon Communications, Inc. v. FCC*, 535 U.S. 467 (2002). (emphasis added)

⁸⁷ *CLEC Access Reform Order*, ¶ 65.

⁸⁸ *In the Matter of Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, Third Report and Order and Fourth Further Notice of Proposed Rulemaking, FCC 99-238, Rel. November 5, 1999, ¶ 258 (“*UNE Remand Order*”).

The Commission has recognized that smaller telephone companies have higher local switching costs than larger incumbent local exchange carriers (ILECs) because the smaller companies cannot take advantage of certain *economies of scale*.⁸⁹ (Emphasis added.)

Elsewhere, the FCC makes similar observations:

We find that incumbent LECs retain material scale advantages with regard to provisioning and operating local circuit switches. Requesting carriers therefore will encounter generally greater direct costs per subscriber when provisioning their own switches, particularly in the early stages of entry when requesting carriers may not have the large number of customers that is necessary to increase their switch utilization rates significantly. *When we examine the market as a whole, we find that requesting carriers incur higher costs due to their inability to realize economies of scale using circuit switching equipment.*⁹⁰

The higher switching costs incurred by CLECs has also been recognized in the universal service support context by the USAC. In specifying conditions for high cost support for competitive companies, the USAC notes:⁹¹

Local Switching Support (LSS) is available to *competitive carriers* providing service in the areas of *rural incumbent carriers* serving 50,000 lines or fewer (mostly rate-of-return and some price-cap carriers) and designated as eligible telecommunications carriers (ETCs) by their state commissions or the Federal Communications Commission (FCC).

[...]

Local Switching Support is designed to help carriers recoup some of the high fixed switching costs of providing service to fewer customers. LSS helps keep customer rates comparable to more densely populated urban areas.

QSI has examined cost studies for the large ILECs in many states and has prepared cost studies for a number of CLECs. While we are generally unable to publicly divulge details of those studies due to confidentially agreements and concerns, we have filed public testimony demonstrating the substantial discrepancies between large ILECs and CLECs. For example, in a Texas proceeding, QSI provided the following:

⁸⁹ *National Exchange Carrier Assn., Inc. proposed Modifications to the 1998-99 Interstate Average Schedule Formulas*, Order, 13 FCC Rcd 24225, at n. 6.

⁹⁰ *FCC UNE Remand Order*, ¶ 260. (emphasis added)

⁹¹ See, USAC website for competitive carriers: <http://www.usac.org/hc/competitive-carriers/step01/local-switching-support.aspx>

It shows that AT&T Texas sells nearly 13 times more switched access minutes in a year than does McLeodUSA [in Texas]. In other words, in terms of the economies of scale between the two carriers related to this product alone, AT&T Texas dwarfs McLeodUSA. [...] It seems clear that if we were to include in the comparison above, the local calls switched by AT&T Texas, compared to the total minutes switched by McLeodUSA, the disparity would be even larger. The sheer overall economies of scale (and scope – i.e. when services other than switched access are considered) make the two companies very poor “comparables” when evaluating their relative costs of producing switch-based services.⁹²

Clearly, smaller carriers, such as CLECs, lack the economies of scale of large ILECs and, therefore, have generally higher per unit switching costs (recall that switching costs are a primary building block of exchange access services). Given that CLECs have higher per unit switching costs than large ILECs, it is unfair and likely confiscatory to cap CLEC exchange access rates at the level charged by large ILECs.

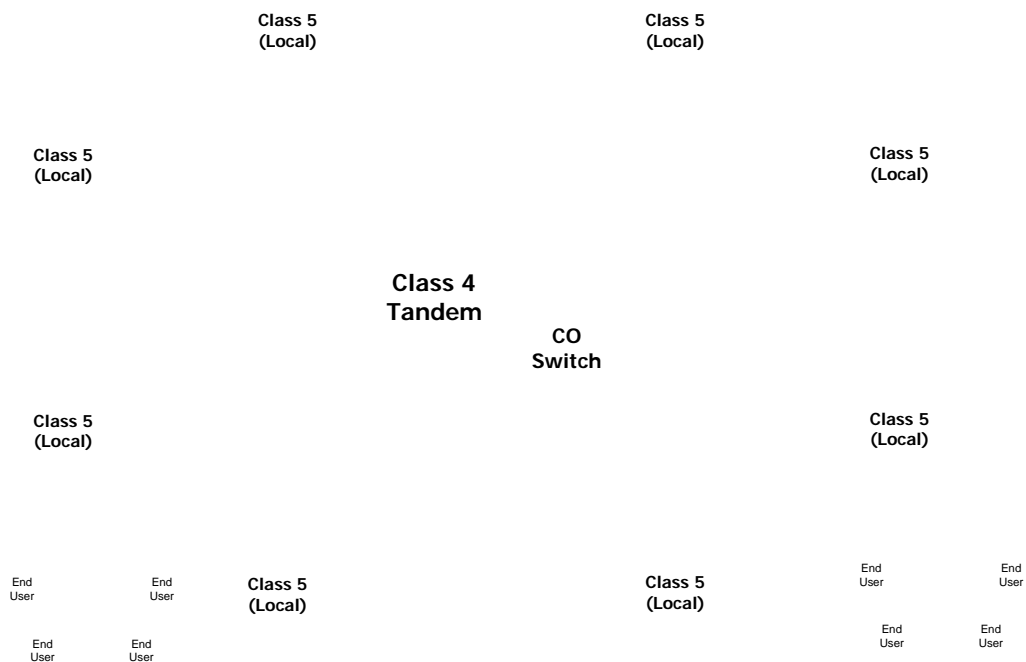
C. CLECs and ILECs Have Different Network Architectures and Thus Different Costs

CLECs typically enter the market with a distributed network architecture that is significantly different from that of the ILECs. Under this distributed architecture, CLECs tend to substitute longer transport routes for switching nodes and outside plant facilities, while at the same time providing origination/termination services throughout large geographic areas roughly comparable in size to areas served, for example, by ILEC tandem switches (which aggregate traffic from the ILEC’s end office switches).

The diagrams below illustrate and compare the two different architectures. The first is the traditional distributed ILEC architecture that uses both Class 5 (end office) and Class 4 (tandem) offices to serve a specific geographic area.

⁹² *Application of McLeodUSA Telecommunications Services, Inc., for Approval of Intrastate Switched Access Rates Pursuant to PURA Section 52.155 and PUC Subst. R. 26.223, SOAH Docket. 473-07-1365, and PUC Docket No. 33545, Rebuttal Testimony of Michael Starkey, page 14.*

ILEC Switch Hierarchy



The second represents a typical CLEC architecture that uses one switch to serve a comparable geographic area. The CLEC uses one switch for the same area as the ILEC because unlike the ILEC who serves the majority of the customers in the serving area, the CLEC can expect to serve only a fraction of all the customers in the area.

Distributed CLEC Network Design



CLECs generally deploy switches that provide a *combined* Class 5 (end office)⁹³ and Class 4 (tandem)⁹⁴ functionality (rather than switches that provide those functionalities on a stand-alone basis) and by means of a distributed architecture provide call origination and termination services across large geographic areas. By extending their switching and transport networks into collocated arrangements in multiple ILEC central offices, CLECs often are able to serve a customer base that is spread out across an entire state or LATA using a single, integrated end office and tandem switching platform.

The cost advantages of this architecture are that it minimizes the amount of switching and central office investment required to serve a more *dispersed customer base*, both by minimizing the number of Class 5 local switches required as well as reducing the need for a stand-alone tandem switch. However, the tradeoff is that this network architecture requires additional investments in transport and collocation. Given that most of the costs of these components are *traffic sensitive* costs, the CLEC network architecture will

⁹³ Class 5 (end office) switches typically aggregate the traffic of end user customers over end user loops, which terminate at the switch. They also provide the vertical features, such as call waiting, etc.

⁹⁴ Class 4 (tandem) switches are typically used to aggregate the traffic from end office switches and provide a point in the ILEC network at which IXCs can connect for terminating and originating long distance calls.

increase the *traffic sensitive costs* of inter-carrier traffic, which should be recognized in exchange access rates.

To properly explain differences in the costs of terminating and originating traffic between large ILECs (e.g., AT&T and Verizon) and CLECs, one should, at a minimum, consider the differences between the ILECs' and the CLECs' network architectures and cost structures. This type of inquiry was not performed by the FCC before establishing the benchmark for CLEC interstate exchange access rates, and any state regulator considering a benchmark for CLEC intrastate exchange access rates should not duplicate this error.

D. CLECs Generally Experience Lower Levels of Utilization for Switching and Transport Facilities

CLECs typically purchase large switches, such as a Lucent 5ESS or Nortel DMS500, capable of serving as many as one hundred thousand customers. Likewise, the SONET facilities constructed to transport traffic to end-users and other carriers are often capable of carrying huge volumes of traffic. Unlike ILECs, even efficient CLECs must deploy these facilities prior to having sufficient numbers of customers to achieve the utilization for which the facilities are designed. This means that, over much of their economic life, the utilization of CLEC facilities is substantially below full capacity, and below the utilization experienced by ILECs.

In contrast, when an ILEC installs or has installed a new digital switch, it does so to replace an old, existing analog switch that is already serving a large number of customers. In fact, old analog switches, such as the 1AESS, may serve tens of thousands of customers that may very well be comparable to the number of customers that a fully loaded digital switch serves (though the analog switch cannot provide the same functionalities). This means that from the moment the ILEC installs a digital switch, it will be able to achieve a higher rate of utilization relative to a new entrant.

The ILEC is also capable of achieving high utilization rates on existing digital switches in wire centers that are experiencing growth. In such situations, the ILEC will often grow the digital switch by installing additional switch modules in the same central office, or it will place remotes that are served by the existing host switch. In either case, the overall level of switch utilization will be high. The same is true for ILEC transport facilities. Here too, ILECs reap the benefit of having a mature network that serves a large, existing customer base so that new facilities can be added incrementally as new demand is anticipated to materialize.

This means that even though a CLEC may employ *optimally efficient*, state-of-the-art facilities, they are likely to experience *average utilization rates* – over the economic life of the facilities – below those experienced by the larger ILECs. This is an economic fact.

E. CLECs Share More Characteristics with Rural or Mid-tier ILECs than They Do with the Large ILECs

This section demonstrates that CLECs have far more in common with rural or mid-sized ILECs than they do with large ILECs, such as AT&T, Verizon or Qwest. In view of this, comparing CLEC exchange access rates to those of the vertically-integrated large ILECs in an attempt to determine whether CLEC exchange access rates are too high should be a non-starter. If any comparison is to be made to judge the reasonableness of CLEC exchange access rates, it would be more appropriate to compare CLEC rates to those of mid-sized and small ILECs.

i. CLECs Tend to Serve a Sparse Customer Base

By and large, CLECs operate and compete with large ILECs, such as AT&T and Verizon, in urban or suburban environments that are densely populated. However, while a high population density in these areas translates into a dense customer base for the large ILECs, the CLEC customer base is typically far more dispersed.

Once CLECs enter a particular geographic market, they tend to serve customers over an area that is roughly comparable to the local calling areas of the ILEC. However, due to their status as new entrants, among other factors, CLECs will only serve *a fraction* of the customers in these areas. Thus, if a CLEC's customer base is expressed on a customer-per-square mile basis, it is very sparse relative to that of the ILECs that serve the vast majority of customers in the same area.

While the nature of CLECs as new entrants to the market intuitively suggests that their customer density is lower than the customer density of the incumbents, actual empirical evidence is lacking because of the proprietary nature of the CLEC line count data. Although the FCC reports statewide line counts for CLECs and ILECs in its *Local Competition Report*, these data provide information only on the combined line counts of CLECs at a state level and does not indicate customer density for an *individual* CLEC within its serving territory.⁹⁵

QSI obtained permission from several of its CLEC clients to analyze their end user customer line count density data and report the results in aggregate (to preserve the

⁹⁵ Because the combined CLEC line counts and shares reported in the FCC *Local Competition Report* are lower than the ILECs' line counts and shares (and there are a number of CLECs operating in each incumbent's territory), it is clear that the underlying CLEC-specific customer density is significantly less than the customer density of the incumbents in which territories CLECs operate. For example, in its most recent Local Competitions Report (released in December 2007) the FCC reports that the CLEC share is on average 17% nationwide, and the highest CLEC share (46%) is observed in Rhode Island. However, the Rhode Island's relatively high CLEC market share is based on 21 CLECs and one ILEC, meaning that each individual CLEC in Rhode Island is likely much smaller than the ILEC (The market shares in this example are from the FCC *Local Competition Report* released in December 2007, Table 7, and the number of reporting carriers are from Table 13).

anonymity of individual carriers). The basic design of the study was to construct a measure of customer density of an average individual CLEC within its serving territory (where the CLEC serving territory is defined as the ILEC's wire centers in which the CLEC is collocated) and compare it to the customer density of the respective ILEC. This study consisted of the following steps:

1. The starting point of this analysis was a data set in which individual CLEC line counts were reported by ILEC wire center in which the CLEC is collocated.
2. This information was combined with the ILEC switched line counts and the serving area (square miles) of the same wire centers.⁹⁶
3. Customer density for CLECs and ILECs was calculated for each wire center in which the CLECs are collocated.
4. Wire center level information was aggregated to the state level and an average (composite) CLEC was compared to the corresponding ILEC.
5. State-level data were compared across states within each ILEC's territory⁹⁷ and the minimum, maximum and average customer densities were recorded.⁹⁸

The results of this analysis are presented in the following two charts (based on a Voice Grade Equivalent or VGE basis).⁹⁹

⁹⁶ The ILEC line counts are based on the following public data sources: Qwest's line counts are its 2007 business and residential line counts reported in its online Iconn database. The most recent public data source for wire center level line counts of other ILECs is the FCC Synthesis Model (the 2000 model results available at the FCC web site). While it is likely that the ILEC line counts (and hence, customer density) decreased compared to 2000, the difference between the CLEC and ILEC customer density (when based on the ILECs' 2000 line counts) is too significant (as shown on charts below) to be erased if the more recent ILEC line count is used. Further, because the 2000 Synthesis Model line counts are close in the vintage date to the date of the FCC CLEC Access order (the order that set the benchmark for CLEC access charges), the use of 2000 line counts is fair. Finally, the ILEC customer density calculated using the 2000 switched line data does not fully capture today's customer base of the ILECs because it excludes the ILECs' special access, Internet (DSL) lines, long-distance customers and video customers.

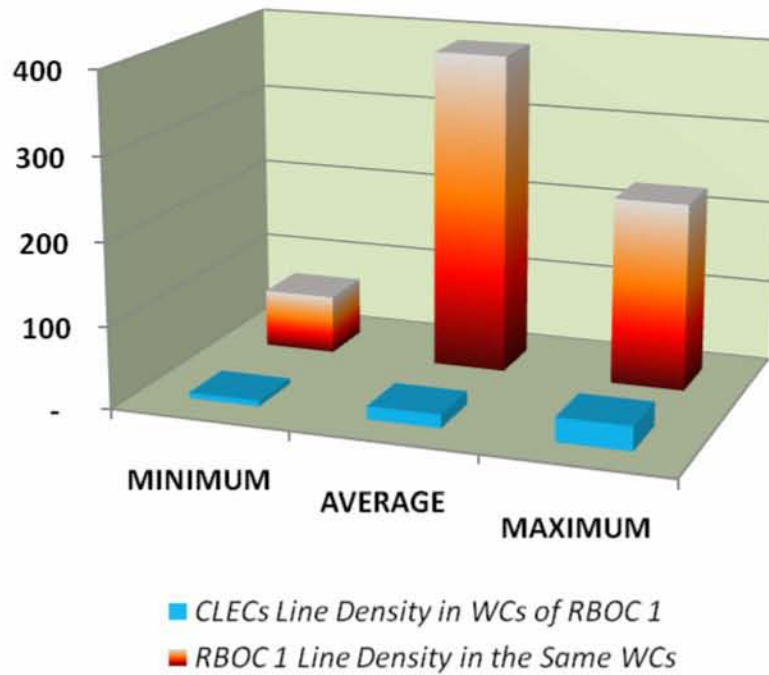
⁹⁷ Because of the data limitations, this analysis was performed for the territory of two (out of three) RBOCs.

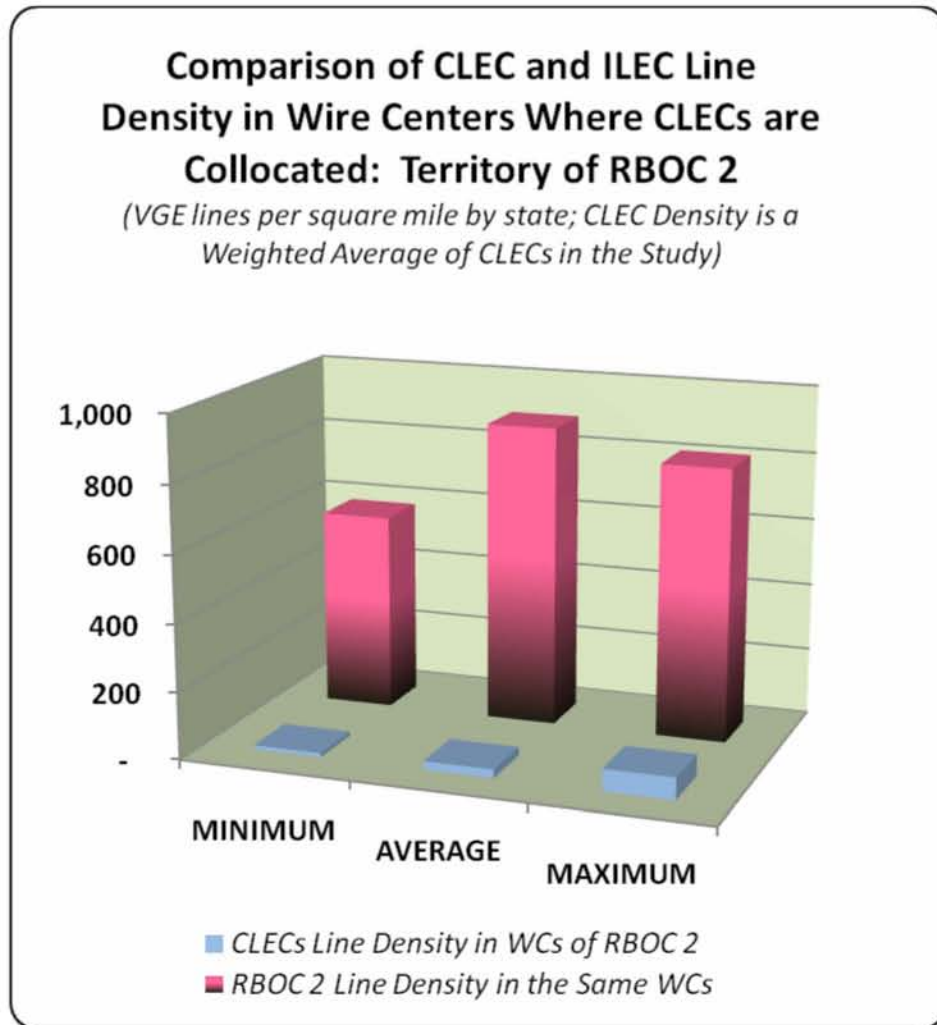
⁹⁸ While the "RBOC Average" corresponds to the RBOCs' average across all wire centers/states, the "RBOC Minimum" and "RBOC Maximum" are the measures of RBOC density in wire centers where the Minimum and Maximum CLEC densities are observed. In other words, while the RBOC may have the maximum customer density in state A, the CLEC may have the maximum customer density in state B. In this case the chart depicts the RBOC and CLEC customer densities in state B.

⁹⁹ As explained above, in order to preserve the data confidentiality, the operating territories are identified simply as "RBOC 1" and "RBOC 2."

**Comparison of CLEC and ILEC Line Density
in Wire Centers Where CLECs are
Collocated: Territory of RBOC 1**

*(VGE lines per square mile by state; CLEC Density is a
Weighted Average of CLECs in the Study)*





These two charts demonstrate that in both territories (the territories of RBOC 1 and RBOC 2), an individual CLEC's customer density is significantly lower than the customer density of the corresponding RBOC. This observation is true on average and at the extremes. Numerically, the gap between the average customer density depicted in the above charts (the relative heights of the "Average" bars) is as follows: An individual CLEC's customer density is 24 times lower than the incumbent's density in the territory of RBOC 1, and 35 times lower than the incumbent's density in the territory of RBOC 2. The following table lists these results (column (c)), along with an additional data point, which is RBOC's statewide customer density (column (d)):

Average Line Densities: CLECs versus RBOCs (VGE lines per sq. mile)

Territory	Wire Centers with CLECs' Collocations			RBOC Statewide (Same States)
	Average Line Density per CLEC	RBOC Line Density	Ratio: RBOC Density Over CLEC Density	RBOC Line Density
Column	(a)	(b)	(c)	(d)
RBOC 1	16	389	24	50
RBOC 2	25	893	35	158

This table shows that a CLEC's average customer line density (column (a)) is lower than the incumbent's density when the comparison is performed in the wire centers where the CLECs operate (which may be relatively more urban/dense wire centers) as well as when the CLEC's line density is compared to the ILEC's statewide line density (column (d)) which accounts for the ILECs' rural areas.

Another data source that supports our findings is a recent study of CLEC line counts in the Minneapolis-St. Paul Metropolitan Statistical Area ("MSA") conducted by the Minnesota Department of Commerce and filed in Ex Parte Comments of the Minnesota Public Utilities Commission in the FCC docket WC No. 07-97.¹⁰⁰ This study represents a fairly comprehensive survey of CLEC line counts in the Minneapolis-St. Paul MSA as it contains aggregate line counts of ten major CLECs in the state.¹⁰¹ QSI combined the line counts reported in this study with Qwest's publicly available switched residential and business line counts to derive average line densities for CLECs and Qwest in the Minneapolis-St. Paul MSA's wire centers. The resulting line densities¹⁰² are contained in the table below:

¹⁰⁰ Ex Parte Comments of the Minnesota Public Utilities Commission dated February 8, 2008 in FCC docket WC No. 07-97 *In the Matter of Petition of Qwest Corporation Pursuant to 47 U.S.C. para. 160(c) in the Minneapolis/St. Paul Metropolitan Statistical Area* (Qwest's Forbearance Petition).

¹⁰¹ The ten CLECs include AT&T/TCG, Covad, Eschelon, Integra, MCImetro, McLeodUSA, Onvoy, Popp, TDS Metrocom and XO.

¹⁰² Note that this measure of CLEC line density is different from the measure used in QSI's analysis of CLEC proprietary data because the MN PUC Ex Parte contained only CLEC-total line counts for each wire center, while each individual CLEC may not be present in each wire center.

Average Line Densities in Minneapolis/St. Paul MSA: CLECs versus Qwest
(Lines per Sq. Mile)

Wire Centers in Minneapolis/St. Paul MSA			All MN Qwest Wire Centers
Average Line Density per CLEC		Qwest Line Density (Switched Lines)	Qwest Line Density (Switched Lines)
Mass Market	Mass Market and Enterprise Market		
3	16	429	73

This table shows the gap between the average line density of the ten CLECs in the Minneapolis-St. Paul MSA and Qwest. This magnitude of this gap is striking, even when enterprise CLEC counts are included. (Compare the CLEC density of 16 lines per square mile with Qwest's density of 429 lines per square mile in the same wire centers). What's more, the CLEC line density is several times lower than Qwest's statewide line density despite the fact that the later measure includes more rural/sparsely populated areas of Minnesota.

To summarize the analysis of line densities, CLECs' customer densities are significantly smaller than the RBOCs' customer densities in markets where they compete. Although a lack of data does not permit a full analysis of customer density for mid-size/rural ILECs, the following observations made by Windstream in the recent Texas USF case¹⁰³ illustrates the relationship between RBOCs, CLECs and mid-size ILECs in terms of customer densities: AT&T has 94 access lines per square mile in Texas, Embarq has only 27 lines, and Windstream has only 7 lines per square mile.

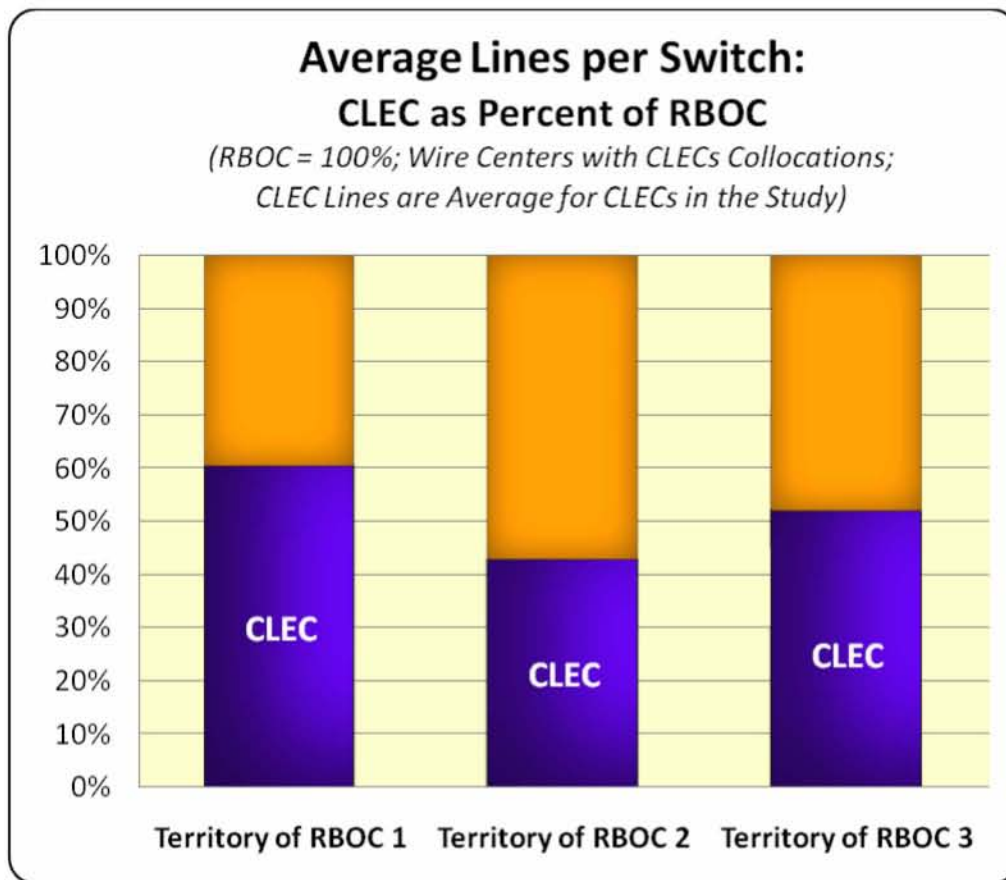
As regulators know from TELRIC and other cost proceedings, customer density is a major cost driver in cost studies. Higher customer density means that certain costs are lower and vice versa. In fact, it is in recognition of this close relationship between customer density and ILEC costs that most regulatory commissions have established different rate zones for UNE rates in TELRIC proceedings, such as urban, suburban and rural rate zones; *i.e.*, rate zones in large part coincide with customer density. Thus, given that the customer bases of CLECs are sparser (or less dense) relative to say, AT&T and Verizon (even in geographic regions in which CLECs compete with AT&T and Verizon), the CLECs' costs are higher on a per unit basis. This effect is partially moderated by the fact that CLECs tend to use the ILECs' UNE loops at TELRIC prices that reflect the ILECs' costs. However, these UNE loops are typically aggregated in collocation arrangements at the ILECs' central offices; from these collocation arrangements, the CLECs then require transport facilities from the ILEC central offices to the CLECs' switch locations. The cost of these transport facilities *are* part of the usage sensitive costs

¹⁰³ Texas PUC case No. 34723, Direct Testimony of William F. Kreutz (Windstream), November 30, 2007, p. 16.

of switched access. They are also costs not incurred in the same manner by ILECs and reflect the fact that the CLECs' have a *sparser* customer base.

The CLECs' networks reflect the low density of their customer bases. Only when their customer base approaches the ILECs' in terms of customer density, the CLECs may deploy more switches to cover certain geographic areas and fewer transport facilities. The use of more switches for certain geographic areas would be economically justified by the larger number of customers. Until that time, CLECs need to aggregate customer loops over larger geographic areas. This also means that they incur more transport costs (for the transport facilities used to connect the UNE loops to their switches.)

Another consequence of low customer density is that CLEC switches often support *fewer* lines than ILEC switches despite the fact that a CLEC's switch aggregates traffic over a large territory. QSI made this observation while analyzing the above discussed proprietary line count data of its client CLECs. The following chart depicts this finding:¹⁰⁴



¹⁰⁴ As explained above, in order to preserve the data confidentiality, the operating territories are identified simply as "RBOC 1," "RBOC 2" and "RBOC 3."

This chart depicts average CLEC lines per CLEC switch (blue bars) as a percent of RBOC lines per RBOC switch, and shows that an average CLEC has less lines per switch than an RBOC in which territory the CLEC operates. Thus, even though the CLEC switch may aggregate customers over a larger area than RBOC switch, the CLEC switch will still experience lower levels of utilization.

ii. CLEC Customers Tend to Be Located at a Greater Distance from the Serving Switch than ILEC Customers

Some of the shortest loops for ILECs are found in their densely populated urban serving areas. Even in those densely populated areas, however, CLEC customers tend, on average, to be located farther from the CLEC's serving central office relative to the distance ILEC customers are from the ILEC central office.

The distributed network architecture employed by CLECs allows customers at great distances from the central office to be connected via transport facilities. CLECs lease existing ILEC loops running between the end user customer's premise and the ILEC's serving central office. When unbundled loops are used, the CLEC still needs to carry the calls generated over those end-user loops with *transport facilities* from the ILEC's serving central office, either directly all the way to the CLEC's own switch or to an "intermediate" ILEC central office where the CLEC has collocated its equipment and then to the CLEC's switch.

The fact that CLECs have longer loops does not necessarily warrant higher access rates, but the fact that these longer loops involve additional traffic sensitive costs related to the *collocation facilities* and *transport components* does. It is important to note that these additional costs for transport and collocation functions are traffic sensitive costs¹⁰⁵ and that they are associated with terminating and originating exchange access traffic. Thus, given that these costs would be incurred even by an optimally efficient CLEC, these costs are legitimate costs to be recovered.

It would be bad public policy for regulators to hold CLECs to a standard, implicit in benchmarking policies (i.e., meet the ILECs' rates or exit), that even an optimally-efficient carrier could not meet. Traditionally in public utility regulation, the notion of just and reasonable rates involves a reasonable opportunity for carriers to recover their reasonable costs. If the standard is set, however, at a level at which even an optimally efficient carrier is unable to recover its reasonable costs, then those rates, as a matter of economics, cannot be just and reasonable.

¹⁰⁵ Many collocation costs are usage sensitive in the same way that trunk ports on a tandem switch are usage sensitive: the larger is the volume of calls, the more trunking facilities will terminate in the collocation space and the more terminating facilities, floor space and power are needed.

F. CLECs Tend to Have Higher Input Costs than the Largest ILECs

Large buyers typically are able to extract better input prices from suppliers than small buyers. AT&T and Verizon, as the nation's largest telecommunications firms, are also the nations' largest purchasers of telecommunications equipment. This gives them significant bargaining power and they are able to negotiate discounts by shifting the bulk of their purchases to the supplier that is willing to offer the best deal. Regulators are well aware of those discounts and have examined them in various proceedings in which large ILEC costs are at issue.¹⁰⁶

Given that one of the most important determinants of costs of a service is the price of the inputs used to provide that service, CLECs will invariably have higher costs associated with exchange access services than the large ILECs. As input prices increase, so does the cost of service. In fact, the relationship between the level of input prices and the costs that are to be calculated is almost linear in the sense that if input prices double, then one should expect the costs to double. The table below illustrates this relationship for a hypothetical facility, following a traditional layout for a cost study. As can be seen from the table, when hypothetical input prices are \$100, the monthly cost is calculated to be \$3.33; when input prices double (*i.e.*, increase to \$200), then the monthly cost doubles as well.

EF&I Facilities¹⁰⁷	Fill Factor	ACF¹⁰⁸	Monthly Costs
(a)	(b)	(c)	$((a)/(b) \times (c))/12$
\$100	80%	0.32	\$3.33
\$200	80%	0.32	\$6.67

By contrast, the CLECs are much smaller and purchase fewer facilities and equipment than do, say, AT&T and Verizon. As a result, CLECs do not have the bargaining power of the large ILECs to induce suppliers to offer substantial discounts or to bid against one

¹⁰⁶ See, e.g., California Public Utilities Commission *Rulemaking on the Commission's Own Motion to Govern Open Access to Bottleneck Services and Establish a Framework for Network Architecture Development of Dominant Carrier Networks*, Investigation on the Commission's Own Motion into Open Access and Network Architecture Development of Dominant Carrier Networks, Decision 06-03-025, Rulemaking 93-04-003; Investigation 93-04-002 (Verizon UNE Phase), Dated March 15, 2006. See also, Illinois Commerce Commission Docket No. 02-0864 Order *Illinois Bell Telephone Company Filing to Increase Unbundled Loop and Nonrecurring Charges*, Dated June 9, 2004; and Georgia Public Service Commission Docket No. 14631-U In RE: *Review of Cost Studies, Methodologies, Pricing Policies, and Cost Based Rates for Interconnection and Unbundling of BellSouth Telecommunications, Inc.'s Services*, March 18, 2003.

¹⁰⁷ The term "EF&I" refers to the engineered, furnished and installed investment in facilities.

¹⁰⁸ The term "ACF" means annual cost factor, a factor used to convert the EF&I investment into an annual recurring cost stream. When these annual costs are divided by 12, they become monthly recurring costs.

another. In short, CLECs' input prices tend to be higher than those of the largest ILECs, such as AT&T and Verizon.

Furthermore, the prices of major inputs used by CLECs in the provisioning of exchange access – inputs that CLECs purchase from large ILECs – have been increasing. Competitive carriers purchase much of their transport and loop capacity supporting switched access services directly from AT&T, Verizon and Qwest in the form of special access services and UNEs. In many circumstances, these fees paid by the CLECs can constitute as much as 40% to 60% of their overall cost structure. Since the FCC originally issued its *CLEC Access Reform Order* in 2001, prices paid by CLECs to purchase loops and transport services from the large incumbents have increased substantially, more than doubling within some companies. These increases result largely from the fact that AT&T, Verizon and Qwest have used increased pricing flexibility granted by the FCC to increase special access prices in critical markets while at the same time limiting access to less-costly UNE products per the FCC's finding of non-impairment in certain areas in its *Triennial Review Remand Order*. Special access services and switched access services work as effective substitutes in the overall market for telecommunications capacity. Where switched access prices are too high, carriers always have the ability to connect directly to the customer via special access and bypass the switched provider. Yet, even as the large ILECs increase prices for dedicated capacity, they are at the same time demanding that regulators force CLECs to reduce switched access rates their affiliated IXCs pay when they use those facilities to originate or terminate toll traffic. With this in mind, it is not surprising that AT&T and Verizon attempt to convince regulators that the CLECs' costs should be ignored in establishing reasonable switched access rates – digging too deeply into CLEC costs is sure to highlight the “have their cake and eat it too” attitude of the large ILECs.

In sum, even if a CLEC had a customer base identical to the large ILECs' in terms of customer densities (though not size), a network architecture identical to the large ILECs (though smaller), and ran its operations with the same level of efficiency, the CLEC's costs associated with providing switched access services would still be higher than the large ILECs' because it pays *higher prices* for its network facilities than do the large ILECs.

G. CLECs Are Forced To Bear the Capacity Risks for Accommodating IXC Traffic

One important aspect of the exchange access provider / IXC relationship that is often overlooked is that exchange access services that are sold on a traditional per minute-of-use basis forces the provider of exchange access services to bear all of the *capacity risk* associated with deploying fixed capital. Traditional switched access arrangements allow interexchange carriers to purchase access to local networks on a “minute-at-a-time” basis without any commitment as to volume or term. This structure is largely a vestige of the post-divestiture marketplace where the FCC and Judge Green were attempting to protect

fledgling long distance providers from the extreme economies AT&T could expect to enjoy when purchasing enormous switched access volumes from its prior Bell System brethren.¹⁰⁹ If all carriers could purchase a minute of switched access for the same price, AT&T was restricted from negotiating substantially better prices based upon its tremendous volumes. Today, long distance providers still largely enjoy the ability to terminate or originate calls on competitive local networks without the requirement that they purchase some minimum capacity or minutes of use volume. Unfortunately, that rate structure forces smaller, competitive LECs to invest in capacity sufficient to accommodate the totality of switched access traffic it may need to support, without any commitment or joint-planning that ensures they recover the costs of installing that necessary capacity.

For example, while AT&T may require 1,000,000 minutes-of-use from CLEC A in Month 1, it may well develop direct connections to large customers or move large amounts of traffic to alternative networks months later leaving the CLEC with investment in substantial capacity that it is now unlikely to recover. In short, CLECs bear substantial capacity risk (and cost) associated with maintaining their networks to accommodate what is largely “casual traffic” from IXC that CLECs have little ability (physically or contractually) to manage and no assurances that the IXCs will in fact originate or terminate the necessary traffic volumes to recover their investments. While this is generally true for exchange access providers under the existing per minute-of-use exchange access regime, the capacity risks are greater for smaller carriers (like CLECs) because they face lumpier investment when adding new capacity. Those risks result in higher costs that are legitimately included in CLEC exchange access charges.

While it is conceivable that these types of capacity costs could be better managed through arms-length negotiations between IXCs and CLECs, unfortunately, the FCC’s *CLEC Access Reform Order* – by establishing a baseline rate equal to the price per minute assessed by incumbent carriers – gives IXCs little incentive to consider anything more or different. In other words, the ability of CLECs to provide stand-by capacity is fundamentally undermined by a benchmarking policy that forces CLECs to provide exchange access services at rates that are generally not compensatory. Expanding a benchmark policy to CLEC *intrastate* exchange access rates further reduce incentives for more rational agreements.

¹⁰⁹ As the FCC noted: “Prior to the FCC’s 1993 restructuring of local transport rates, LECs recovered their transport costs through a rate structure based on the “equal charge per minute of use” requirement in the Modification of Final Judgment (MFJ). The “equal charge per minute of use” rule required that the Bell Operating Companies charge an equal amount per unit of traffic for delivery or receipt of traffic of the same type between end offices and IXC POPs within an exchange area. This approach essentially required all interstate access service customers to pay averaged rates. The actual type of facilities --voice grade, DS1, or DS3 -- that were used to transport a customer’s traffic between the IXC POP and the LEC serving wire center did not affect the charges that were assessed, because the rates were usage-sensitive and, generally, distance sensitive. Under the terms of the MFJ, the equal charge rule expired on September 1, 1991.” See, *In the Matter of Transport Rate Structure and Pricing Resale, Shared Use and Split Billing*, Report and Order, CC Docket No. 91-213, Adopted February 27, 1998, para. 3.

H. CLECs Should Not Be Asked To Shift Under-Recovered Traffic Sensitive Costs onto End Users

Some advocates of benchmarking have suggested that CLECs should recover their costs of providing exchange access services from end-users if a regulatory benchmark/cap results in below cost exchange access rates for CLECs. This suggestion is misguided for the following reasons.

First, this suggestion ignores the fact that the CLECs do not have nearly as much ability as the large ILECs to recoup network costs by raising the rates for services with flat-rated, non-usage sensitive rates (like monthly local telephone service). CLECs compete in local exchange markets and must meet or beat prevailing end user prices. This means that they cannot simply increase their rates to recover costs unrelated to the provision of local exchange services. That is, aside from the fact that such a cross-subsidy is unjustified, markets dynamics won't tolerate it.

Further, as explained above, the typical CLEC network architecture generates more traffic sensitive costs than the ILEC network architecture. This is true because CLECs deploy relatively more transport facilities than ILECs and they require collocation facilities. The costs of both transport and collocation facilities tend to be traffic sensitive. Further, much of the CLECs' traffic is off-net traffic. The combined effect is that a much larger portion of CLECs' overall costs are traffic sensitive. This also means that any under-recovery of exchange access related costs – i.e., traffic sensitive costs – weighs more heavily on the CLEC than on the ILEC and causes a much larger shift of unrecovered costs to other customers or services.

Last, the recommendation falsely suggests that ILECs are doing the same. However, ILEC exchange access rates have *not* explicitly been set below the ILECs' costs of providing exchange access services – as benchmarking would for CLEC. To the contrary, all indications are that the ILECs' exchange access rates are compensatory. Thus, forcing CLECs to shift under recovered exchange access costs to their end-users puts the CLECs at a severe competitive *disadvantage* in the retail market.

VII. CONCLUSION

Contrary to recent advocacy by the large, vertically-integrated ILECs/IXCs that there is market failure that distorts CLEC exchange access rates, the data show that there is no systemic problem: as we have shown, CLEC exchange access rates, on average, are reasonable and not indicative of market power. In fact, when compared to the rates of other carriers, CLEC exchange access rates are at levels one would expect them to be given the disparate cost characteristics of various carriers – i.e., slightly higher than large ILECs but lower than the mid-sized and small ILECs.